THE

AMERICAN FARMER,

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

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WORK FOR THE MONTH.

APRIL.

As we have entered upon the second spring month, it becomes a duty with all to urge forward their work with all possible expedition consistent with its faithful execution, for, to the manner in which farm work may be done much as relates to future success, or failure, may depend. We are among those that believe that the thorough and perfect preparation of the soil exerts an important influence upon the quantity of our crops. Therefore, we have always urged it upon our readers as a matter of the very first consequence, to spare no pains in putting the land for each crop in the very best state of pulverization—to have all lands that were not wet, ploughed deeply and accurately and harrowed and rolled, until the finest possible degree of tilth was obtained. And while we have contended for nicety in ploughing, harrowing and rolling, we have with equal zeal maintained that every thing should be done at the right time, and deprecated the putting off labor that should be done from day to day. We have seen the evils arising from procrastination, and knowing full well how disastrous are the consequences of delay as to the time of setting one's crops, and have advised against it from year to year with all the zeal and ability we could command; and before making out what should be attended to this month, we enjoin upon all to make it a duty to get all their crops in seasonably. With this injunction we will briefly point out some of the many things that should be attended to.

Oats.

The Oats-crop should be seeded as early as the ground can be advantageously worked. We shall not attempt to designate the day when it should be put in any where, as every few degrees operate to render the proper time different; but as a general thing, it may be assumed as a truth that the *right time* for seeding oats, in each locality, is as soon as by the absence of frost from the ground, in the spring, it can be ploughed and put in good condition, and the soil is sufficiently warm to ensure the germination of the seed. And here we will remark that he who desires a large crop of oats, must comply with the following suggestions—he must, if his land is not very fertile, manure it liberally; *if it be not wet*, he must have it ploughed accurately and deeply, and harrowed and rolled until it be reduced to the finest possible state of subdivision. If justice be done to the soil—if the oats crop be accorded the attention due to it, it is susceptible of being made a profitable one; but as treated by many—consigned to the poorest field without manure—it is an utter fallacy to expect a large product. There are numerous well attested facts, proving that upwards of 80 bushels of oats to the acre have been grown; but such results are rare, and only arise where every condition had been complied with calculated to secure large products.

We have heard more than one farmer say, that he could never get a good crop of oats from land in sod. Now as most fields of that description are ploughed, there is no wonder or mystery in the matter. The ploughing rarely exceeds 3 or 4 inches in depth, and as a consequence, as much grass and weeds remain upon the surface as are turned under; the genial warmth of the spring sun, necessarily starts the grass and weeds as soon as it does the oat plants, and as ill weeds grow with rapidity, they not only rob the oat plants of nourishment, but *smother* and destroy them.

If we were left to the selection of a field upon which to grow oats, with an eye to large product, we should select a grass-sward or clover-ley. After broadcasting whatever manure we had provided for the crop, we would plough in the grass-sward or clover-ley, as the case might be, 6 or 8 inches in depth, taking care to lay the furrow-slices flat; we would then roll the land lengthwise the furrows, to close up the seams; harrow till we had obtained a fine tilth, then roll preparatory to seeding the oats. By such preparation the roots and seeds of the grass and weeds would be placed too low to germinate, while the oat plants would derive the full benefit of the earth and air to themselves.

Of Manures for Oats.—Upon the subject of manures for oats, we refer to our remarks last month.

Time of Seeding.—This must depend upon locality. Whenever the frost is out of the ground, and it can be well ploughed and put in good condition, is the *right time* to seed oats. As far as our experience and observation goes, we believe that oats require a dry bed, and when all things are equal, that, in a large majority of cases, the earlier they are sown after the land is sufficiently warm to sprout the seed, the greater is the chance of their

producing well. And we believe that he who expects a good crop of oats without giving them plenty of food, will be woefully disappointed.

Quantity of seed per acre.—From 2 to 3 bushels of seed oats per acre should always be sown on land fit to grow oats in.

Mode of putting the seed in.—After the seed is sown, harrow the way of the furrows, then cross-harrow and roll. The ploughing in of oats is apt to bury much of the seed too deep to germinate.

A bushel of plaster, 2 bushels of salt and 5 bushels of spent, or 2½ bushels of unspent ashes per acre, sown over the field, will have a beneficial effect; nay, indeed, is indispensable to complete success.

If it be contemplated to seed the oats-field to clover, there are two plans of management. 1st., if you sow the clover seed at the time you do the oats, delay the rolling until after the clover seed is sown, and then roll. 2dly.—There is another mode which is highly approved of, it is this: to omit the rolling at the time of seeding the oats, and when the outplants have come up and about 3 inches high, to sow the clover seed and roll them in.

Potatoes.

Get in your *early* potatoes as soon as possible. As to the mode of culture we refer to our advice in last month's work.

Barley.

This crop should be put in as early as the ground can be *well* prepared for its reception.

Barley requires a light, rich, friable, mellow soil, one that is *moderately moist, but in no wise a wet soil.* Any good wheat soil will answer, provided it be well prepared. It requires that as much attention should be paid to manuring, and fineness of tilth, as does the wheat or any other crop of small grain. If it be given plenty of food, and the soil be properly and timely prepared, it will yield a profitable crop, the product varying from 25 to 40 bushels per acre, according as justice may be done to it in the selection, manuring, preparation, and adaptation of the soil. It is a grain that invariably finds a ready market, good price, and the cash.

It is a crop which the most judicious and observant farmers pronounce to be better adapted to being seeded to clover, or grass seeds, than is oats. The straw, if harvested before the grain gets dead ripe, is well relished by stock. The modes of seeding Barley to clover, or grass seeds, are the same as we have spoken of in relation to seeding them to oats.

Of the manure for Barley.—For an *acre*, either of the following proportions and kinds will answer:

1. Mix well together, layer and layer, about 10 two-horse loads of barn-yard, or stable manure, 10 loads of woods-mould, or marsh or river mud, or mould of any kind, 10 bushels of leached ashes, 1 bushel of plaster and 1 bushel of salt. Let these be placed layer and layer about, thoroughly mixed together, thrown into mass, suffered to remain a few days, then spread broadcast, evenly, ploughed in deeply, say 8 inches, and the ground be harrowed lengthwise the furrows and rolled, when the barley must be sown, harrowed and cross-harrowed and rolled.

2. 150 lbs. Peruvian Guapo, to be mixed with 2 two-horse loads of woods-mould, marsh or river mud, 1 bushel of salt and 1 bushel of plaster; the whole to be well mixed together, and ploughed in, and the soil treated as in No. 1.

3 Twenty-two-horse loads of stable or barn-yard manure, mixed with 1 bushel of plaster, to be ploughed in as prescribed in No. 1.

4. Mix well together, layer and layer about, 4 bushels of bone-dust, 10 bushels of ashes, 2 two-horse loads of wood's-mould, 2 bushels of salt, and 1 bushel of plaster—throw the whole into mass, and let it remain 2 weeks in bulk, then spread it evenly over the ground, plough it in, &c., as advised in No. 1.

5. 2 bushels of *bone-dust* dissolved in 50 lbs. of *sulphuric* acid, diluted with 150 lbs. of water: the mass when dissolved, to be dried with 10 bushels of leached ashes will make an ample dressing for an acre of barley. It must be spread evenly and harrowed in.

Quantity of seed per acre.—The soil being prepared as we have stated; sow 2 bushels of barley per acre therein, harrow and cross-harrow the seed in, and then lay off water furrows with care, and roll across the furrows.

Time of Seeding.—The time of seeding barley, as we have before premised, will depend upon *locality* and *season*. As a general rule it may be stated, that barley should be got in as early in the spring as the land can be advantageously ploughed, and reduced to fine tilth. So it may be stated that the early pitched crop yields more *grain* than does the late one.

Spring Wheat.

Without desiring to encourage the culture of this grain, south of Pennsylvania, we will remark that much of its success depends upon its being got in *early*. We have grown three crops of it; the first was an excellent one, twenty-two bushels per acre, upon land not fertile by nature, but well manured, and as well prepared—the other two crops were lamentable failures—so much so as to induce us to abandon the culture of spring wheat. We have heard of great success in Western N. York, during the past season in its culture; but notwithstanding, we incline to the opinion that it does not suit the South.

Corn and Corn-Culture.

Upon these topics we are not aware that we can add anything that would be of advantage, to what we said in our last month's notice. We will however, remark, that if your land be *sound*, that is, *not wet*, you should by all means plough from 6 to 8 inches deep. If it be wet, take our word for it, it is not fit for corn or any other crop, and that the sooner you drain it, and relieve it of its excess of water, the better.

Lucerne.

We feel an abiding interest in the culture of this too much neglected member of the clover family, and respectfully refer our readers to the plan of culture we recommended last April.

Artichokes.

Those who have a few acres of light sandy land that they can spare as a permanent lot for this root, cannot do better than to plant it in it. While an acre, well manured, and cultivated, will yield 500 bushels of the tubers, the blades make excellent fodder for stock. With regard to the method of culture we refer to our remarks of last month.

Apple Orchards.

Treat the trees and ground as we advised last month. In the recommendations therein made, we do not speak without our card, as we have seen the best results flow from the treatment we suggested.

Permanent Pasture.

If you have no permanent pasture for your stock, let humanity and interest induce you to provide one, and our word for it, you will never regret it. As to the method of preparing it, we refer you to our February work on the Farm.

Parsnips and Carrots.

If you desire to provide good nutritious, milk and butter, producing food for your milch cows, permit us to advise you to put in an acre of each of these roots during this month. The soil should be a deep, sandy loam, which should be deeply ploughed and thoroughly pulverized—the manure should be well rotted stable or barn-yard manure, and mould of some kind, guano, or bone-dust dissolved in sulphuric acid and dried in ashes.

Preparation of the ground.—Plough it full 8 inches deep, then harrow until a perfectly fine tilth be obtained, then roll. This done, run furrows 20 inches apart, 4 inches deep, for *parsnips*; in the bottom of these furrows sow the manure about 2 inches in depth, then turn back the earth, thrown out in making the furrow, run a roller over the top, and upon the top of the manure thus covered up, drill in the seed with a drilling machine, which will make the drill, drop the seed, cover them up and roll them. If you have no seed-drill, with the corner of a hoe make drills 1 inch deep; drop the seed either by hand, or out of a bottle, cover with a rake, and compress the earth with the back of it.

For *Carrots*, the drills need be not more than 15 inches apart, and of the same depth as for parsnips.

Quantity of seed per acre.—From 2 to 3 lbs. per acre.

Preparation of the Seed.—Before drilling the seed, soak them 24 hours in warm water, drain off the water, and separate by mixing them with a mixture of equal parts of ashes and plaster, or soot and ashes. To insure an equal and thin distribution of the seed, add 2 parts sand to 1 of seed, and stir them well together.

The carrot seed before being soaked, should be rubbed between the hands mixed with sand.

Culture.—When the seed are drilled in, give the drills a free dusting of a mixture comprised of 4 parts ashes and 1 of plaster; in addition to which the carrot drills should be dusted with salt.

When the plants are 3 inches high, work between the plants with the hand. At this first working, thin out the plants—the carrots so as to stand 4 inches apart, the *parsnips* 6 inches. After which give them a free dusting with the mixture recommended above, which dusting will be the better if given in early morning, when the dew is on the leaves of the plants. A very excellent mixture for this purpose is the following: 3 parts ashes, 1 part plaster and 1 part soot.

At intervals of two weeks apart, give the parsnips and carrots a second and a third hoeing and weeding, and repeat the dusting, and your culture will have been completed, unless she season shall be particularly encouraging to the growth of weeds, in which case they must be subjected to a fourth working.

To ensure a very large product of roots, it would be advisable to subject the ground to subsoiling as well as ploughing.

As to the quantities and kinds of manure for an acre. Ten two-horse loads of well rotted stable or barn-yard manure, mixed with 5 loads of rich mould: 200 lbs. of guano composted and intimately mixed with 10 loads of marsh mud, or mould of some kind; or 4 bushels of bone-dust dissolved in dilute sulphuric acid, formed into compost with 10 bushels of ashes, and 10 two-horse loads of marsh or river mud, or some rich mould or ditch scrapings.

If you should put in these two acres of roots, as we have proposed, cultivate them well, and the season prove auspicious, you may reasonably calculate upon a product of a thousand bushels—much larger yields are often given, but as we do not wish to excite sanguine expectations, we keep quantity down.

Compost Materials.

Suffer no materials of any kind on your place calculated to be converted into manure to go unappropriated.

Millet.

We have had our feelings so painfully excited during the preceding month, by reading accounts of the *death of stock by starvation*, that we feel ourselves called upon to call attention to all who have not meadows whereon to grow hay, to the propriety of sowing a few acres in the beginning of May with millet seed. We know of no more certain reliance for hay, and we here speak from experience. Ten acres of light, deep, rich mould, if manured at the rate of 300 lbs. of *Peruvian* guano, per acre, plowed, say eight inches deep, harrowed until a fine tilth were obtained, and seeded to millet, would produce 30 tons of good millet hay, which will be well relished by horses and stock generally. We have grown 4 tons and 28 lbs., on 1 acre and 10 perches of good land, well manured, and off of 7 acres of inferior land, highly manured, we harvested 18 tons of excellent hay.

There is no member of the family of grasses that stands drought and heat as well as does millet. Indeed, heat seems to be essential to its full development. We know of nothing of the vegetable kind grown for hay, that is more easily cured. The year we cultivated the 7 acres in millet, tested this effectually. After cutting that crop and letting it lay in the swaths half a day, we made it up into small cocks; on the next day, a rain threatening, we turned the small cocks, and increased their size by putting three or four into one, giving each cock a conical form, and making them up nicely so as to turn rain. We had barely time to complete our cocks before the rain poured down, and it continued to rain for seven successive days. We dreaded the result; but on the eighth day, after the rain had ceased, on examining our cocks, to our delight and surprise, we found the hay not injured in the least, but on the contrary well cured, only requiring spreading and drying in the sun before removal to the barn for being stored away.

To grow this grass with the prospect of the best results, the soil, as we have before premised, must be a light, deep, rich mould, it must be manured with 300 lbs. of *Peruvian* guano, or its equivalent of other organic manure; the ground must be ploughed at least 8 inches deep, harrowed till a perfectly fine tilth be obtained, and then be rolled previous to the sowing of the seed. After the seed is sown, they must be lightly harrowed in; when each acre must receive a top-dressing of 5 bushels of ashes and 1 of plaster per acre, and then be rolled. In 6 weeks the millet will be fit to cut and cure into hay. The time for cutting, is, when the seed at the top first begin to turn yellow.

Quantity of seed per acre.—Sow 3 pecks per acre.

Italian Rye Grass.

This plant, like the millet, may be availed of as a ready resource for hay; a native of Italy, our

warm suns will be found congenial to its growth. If the ground be manured, and ploughed, as for millet, it will yield two or three cuttings in a season, provided it be cut just as it is coming into bloom. All kinds of animals eat it with avidity. After each cutting, it should receive a top-dressing of say 2 bushels of bone-dust, 1 bushel of salt and 5 bushels of ashes. At the time of seeding, top-dress it with 1 bushel of plaster. Until very recently it had not been introduced into England, probably because of its southern nativity, the climate of England was not considered congenial to it. In speaking of this grass, *G. H. Andrews*, Esq., author of "A Treatise on Agricultural Engineering, &c.," and author of "*Modern Husbandry*," a work published in London in 1853, among several instances of its productive nature, has the following :—

"The following is the result obtained on the farm, and which may give a better notion of its value than anything else that I could say about it:—

"Fifteen Scotch acres were under cultivation. The first cutting of this had yielded about ten tons the acre, the second nine, and the third, which was ready for cutting, was estimated at eight or nine. [We presume these are tons of grass, not hay. Ed. Am. Far.]

"Mr. Dickenson, at Willesden, estimates his yield of Italian rye grass at from 80 to 100 tons an acre, gets eight or ten cuttings according to the season ; and there is no peculiar advantage of soil or climate, the former ranging from almost pure sands to cold tenacious clays." [Here again, we take it for granted that the *grass* is meant. Ed. Am. Far.]

"At Myer Hall Farm, one field of rye grass sown in April, has been cut once, fed off *twice* with sheep, and was ready (August 20th) to be fed again. In another, after yielding four cuttings within the year, each estimated at nine or ten tons per acre, the value of the after-math for the keep of sheep, was stated at 25s. sterling per acre."

Such results as are herein stated, are not to be expected in this country. In England, the parties who obtained these heavy crops *manured with liquid manures after each cutting*. This grass is a biennial, and if cut just as it comes into bloom, will last two or three years, provided after each cutting it receives the top-dressing we have recommended.

Working Animals.

Feed these generously three times a day, currying them night and morning, whisping or brushing them down each time ; water them at each meal, let them be well and cleanly bedded at night, and give them 1 or 2 oz. of salt twice a week, or the same quantity of oyster shell lime, sifted ashes and salt mixed together.

Milch Cows.

Let these receive increased attention and care. In addition to their hay or fodder, give them nutritious slops ; have them watered thrice a day, give them dry bedding at night, and salt, or salt, ashes and lime, twice a week, 2 oz. each time.

Young Stock.

Let these be cared for in the way we have so often pointed out. Unless a young animal be fed so that the demands of his structure can be supplied, it certainly will be despoiled of much of his fair proportion. The doctrine of keeping young animals *poor*, which some contend for, is neither christian nor philosophic. While we would never keep a young animal *very fat*, we would so keep him, that he should always be in good condition, and we would give him the right kind of food, to enable his framework to be fully developed. If we feed a young animal scantily the first and second winter, as sure as the sun rises in the east, we will make an irreclaimable runt of him.

Sheep.—Care for these as we advised last month.

Marling Land.

If your land needs liming, you may use marl with your organic manure without injury, and we wish you to bear this in mind, that all lands which have been long in culture without having been limed, will be benefitted by an application. We hold it as an agricultural truth that lime is, and should be considered as the base on which all improvements of worn-out lands should be built.

Hauling out Manure.

If you have not already hauled out your manure for your spring crop, do so without further delay.

Gates.

If the access to your fields are through *bars*, substitute these with light well hung gates.

Tobacco Beds.

See to these with strict attention ; let your own eyes do the inspection.

Fences.

Examine these carefully yourself, and have every necessary repair made without delay.

Old Fields.

If you have any of these eye-sores, convert them into pastures for your stock in the way we have so often pointed out.

Hemp and Flax.

These crops should be speedily got in.

BALTIMORE MARKET—March 30.

The late news from Europe, announces the death of the Emperor of Russia, and the ascension of his son Alexander the 2d to the throne, who has issued his manifesto, declaring his determination to follow out the plans of his father. According to our reading of the signs of the times, the prospect of peace in Europe is less evident now than before the death of Nicholas.

The prices of grain, it will be seen, rule high, and it is now very generally admitted by the commercial press, that the supplies of the country of the former crop, is barely sufficient for home consumption until after the next harvest - and we notice that a miller in Wilmington, Del., is engaging the coming crops of farmers at $2 per bushel. The appearance of the Wheat crop, is, according to our advices, any thing but favorable at the present time—the winter has been very severe upon it—tho' it is too early as yet to form any calculations upon the result.

Flour, Howard street and City Mills $9.12½; but little offering. Rye Flour $6.00—Country Corn Meal $4, and city do. $4.37. Wheat is active, and prices tend upward—good to prime red 2.15a2.20c. and good to prime White 2.20a2.25c. and for choice samples for family flour 2.30a2.40, the highest price yet reached for wheat. Corn, 84a85c. for mixed, 88a89c. for white, and 90cents for yellow. Rye, Pa. $1.25. Oats, Md. dark 54½, and prime 56c. All descriptions of grain firm. Rice 5¼a5¾c. Sugar, N. O. com. to prime $4.75,a5.50; fair to prime Porto Rico, $5.25a6. Molasses, N. O. 26c. Provison Market is quite active, large sales are being made for future delivery. Clover Seed, $6.25a6.50, for fair to prime lots, season pretty well over. Timothy, $2.50a3.75. Tobacco, is in good demand for all that reaches the market, at full rates; inferior to com. Md. $5.50a6; good and com. to mid. leafy, $6.50a7; and good to fine brown 7a9. Nothing doing in Ohio. Guano is without change from our last month's quotations; Plaster $3.87 n4, per ton; ground $1.25a1.37 per bbl. Cattle, prices range from $4.25a$6.25, on hoof, equal to $8.40a12¼ nett, and averaging $5.62 gross. Hogs, live $7a7.75 per 100 lbs. Sheep $3.50 a$5 per 100 lbs. Spirits Turpentine 42a44, Tar $2a2.25, Pitch $2.50, com. Rosin $1.60a65, No. 2, $2a2.25, No. 1, $2.50a3 per bbl. Potatoes, from the vessel, $1.25a1.60 per bushel, scarce and in active demand. Wool, inactive, and prices unchanged. Hay, baled 20a22, loose from wagons $18a20 per ton. Straw 14a15 for Rye, and $10 for Wheat.

Weighing or Measuring Corn.—We have received two communications on this subject, which, however were received too late for this No.

THE UNITED STATES AGRICULTURAL SOCIETY.

This society held its annual meeting at Washington, commencing on Wednesday the 28th February. The President, Col. WILDER, on taking the chair delivered an appropriate address. On motion of Mr. King, of N. York a committee was appointed to nominate officers for the ensuing year; another to settle with Col. Selden, who resigned his office as treasurer. Gen. Wager, Chairman of the latter Committee, subsequently reported that the Treasurer had settled to the satisfaction of the Committee, giving security for the amount in his hands.

Mr. Holcomb, of Delaware, offered a resolution to the effect, that agriculturists protested against the doctrine of free trade for agriculture, and protection for other interests; free trade as introduced by the Reciprocity Treaty for the farmer, and a tariff of protection for the manufacturer, and navigation laws, securing a monopoly in our coast-wise trade to commerce—protection to all, or protection to none. Laid on the tabe to be the special business for Thursday morning, 11 o'clock.

Mr. Calvert, of Maryland, introduced the following resolutions:

Whereas, The prosperity of a country is in proportion to the improvement of its agriculture, therefore

Resolved, That agriculture should be the first interest considered in legislating for the general welfare, and that such legislation should be had as will foster and protect this interest, which is paramount to all others.

Resolved, That the time has arrived for the agriculturalists of the whole country to meet in convention, and determine for themselves what legislation is necessary for their protection.

Resolved, That such a convention, to be composed of delegates from each State in the Union, be earnestly recommended by this Society, in order that an agricultural platform may be established, which will meet the views of, and be sustained by the whole body of agriculturalists as a profession.

Laid on the table to be taken up next after the above Resolution.

A letter was read from Col. Selden, resigning his office as treasurer, and accompanied by securities for the funds of the Society deposited in the Bank, was referred to Messrs. Wager of New York, Calvert of Maryland, and Worthington of Ohio. They subsequently reported, complimenting Col. Selden for his integrity, and expressing confidence that the funds are secure.

Mr. Clempson, of Maryland, introduced a resolution suggesting a plan for organizing agricultural schools.

Maj. Jones, of Delaware, presented a report embodying an amount of valuable agricultural statistical matter, and facts relating to agriculture; after having been read, it was, on motion of Mr. King of New York, placed on the files of the Society. Some practical agricultural topics, the potatoe rot, deep ploughing, the best mode of applying manure, &c., in which Dr. Underhill, Col. Kimmell, Mr. King, Mr. French, Clempson, Warring, and others took part., were then discussed.

In the evening the Society attended a lecture by the venerable George Washington Park Custis, on the Farmer of Mount Vernon, a most appropriate topic, and most ably and successfully handled, and for which the orator received great applause by the audience, and subsequently the thanks of the Society. After the lecture, the officers and committees were unexpectedly entertained at the National Hotel, by Col. C. B. Calvert, the proprietor of "Riversdale." A sumptuous repast graced the festive board, and the festivities were prolonged until a late hour.

Thursday morning. Mr. King made a report for officers for the ensuing year, an election was gone into. We give the names of those elected below.

Mr. Holcomb's resolution came up, and was discussed by Messrs. Holcomb, King, Calvert, Peck, Worthington, Waters, Elwin, Stedman, Kimmel, Kennedy, Cowley and others, and passed as modified in phraseology, but retaining the substance of the resolution, as follows:

Resolved, That we object to the doctrine of free trade for agriculture and protection for other interests.

The resolution was passed, and its passage proved to be very timely, for that very day the Senate had before them the Bill, modifying the tariff, and striking down the only remaining protection left to agriculture, the duty on wool, 22 per cent., while the general reduction was to be but 6 per cent. Mr. Clayton in the evening made allusion in the Senate to the action of the Society, protesting that three million of agriculturists would never consent to be taxed for the exclusive benefit of those engaged in commerce and manufactures. A number of members of the Society called on Mr. Clayton in a body to thank him for this just expression of their views.

Mr. Calvert's Resolutions next came up, and Mr. C. took the ground that it was high time a convention was called, for the agriculturists to lay down *their* platform; that they were over-slaughed and burthened, and their interest utterly disregarded.

This Convention should represent the talent, capital, weight of influence, and respectability of the great agricultural interest of the Union. After further remarks by Mr. King, Maj. Jones, of Delaware, and Mr. Kennedy of Pennsylvania, the Resolutions were passed.

Gen. Wager, of New York submitted a report, suggesting amendments to be made in the Constitution—which was concurred in.

Various reports were made: one on Agricultural History, by B. P. Poor, one on Glover's Collection, by Mr. Peck, and one on Western Fruits, by Dr. Warder.

A communication on the Oregon Pea, from Professor Henry, was read. A report on Alderney Cattle, by Dr. W. T G. Morton, was read, also a paper on the Potatoe Rot.

Dr. Warder, of Ohio exhibited, over 30 varieties of Western Apples, most of them very fair and beautiful.

Invitations were received by the Society to visit the Metropolitan Mechanics' Institute, the office of the Coast Survey and the Observatory.

Mr. Custis, the farmer of Arlington, gave in his experience in growing wheat, and very strikingly described, in simply relating what had occurred to himself—what had been his own success—the great change that has been brought about in the prosperity now to be witnessed among the landed proprietors of Virginia.

In the evening the Society attended a lecture by the Hon. G. P. Marsh, on *the Rural Economy of Continental Europe;* which was an able and interesting discourse, and is to be published.

Dr. Warder, of Ohio, followed with a lecture on Hedges.

Mr. Holcomb offered the following resolutions in reference to the Press, which were supported by B. O. Tayloe, Esq., of the District of Columbia, and passed.

Resolved, That in the opinion of this Society, the time has arrived, when if our Agricultural Press, that has so well and ably advocated agriculture, were to take a more extended range of discussion, following our farmers from their fields into their markets, giving some consideration to agricultural political economy, it would be likely to meet the approbation of their patrons, all of which however, is respectfully submitted to the sound discretion and judgment of the conductors of the Agricultural Press.

Resolved, That the thanks of the Society are due, and are hereby respectfully tendered to the Press at large, for their advocacy and support of the interests of agriculture.

March 2nd.—The Society met at 10 o'clock, and passed an hour in familiar conversation on agricultural subjects.

After a discussion on the appointment of Commissioners to the Industrial Exhibition at Paris, the matter was referred to the Executive Committee.

On motion of Mr. Poor of Massachusetts, it was unanimously

Resolved, That the thanks of the United States Agricultural Society be presented to the Regents of the Smithsonian Institution, for the facilities afforded for holding this session. The utility of this Institution, in thus serving as a nucleus, around which all useful associations can rally, at the capital of our Republic, shows the wisdom of the course pursued by the present Regents.

Col. Kimmel, of Maryland, read a curious extract from the Maryland Gazette, of September 8th, 1747, showing that "cattle shows" were established at Baltimore in that year.

On a report of the Executive Committee, Dr. Elwyn of Penn., Henry Wager of N. Y., Dr. W. T. G. Morton of Mass., Col. Anthony Kimmel of Md., and Chas. L. Flint of Mass., were appointed delegates to attend the coming Industrial Exhibition at Paris.

On motion of Mr. Waters of Massachusetts, it was unanimously

Resolved, That the thanks of this Society be proffered to the Hon. Geo. P. Marsh, for the very beautifully written and exceedingly interesting lecture he was so good as to present to us last evening, and that Professor Henry be requested to wait on him and request a copy for publication.

On motion of Col. Calvert of Maryland, it was unanimously

Resolved, That the thanks of this Society be presented to Dr. Warder, for his interesting lecture on the cultivation of Hedges, and that he be requested to present a copy of the same for publication in the transactions of the Society.

At eleven o'clock, in accordance with their acceptance of the invitation, the Society adjourned to visit the exhibition of the "Metropolitan Mechanic's Institute."

A resolution was passed, fixing the time of holding the Agricultural Convention on the Friday following the next annual meeting of the National Agricultural Society, which will be the 2nd Friday in January. The Society then adjourned.

The following is the list of officers elected;

Officers for 1855.—President, MARSHALL P. WILDER, of Mass. *Vice-presidents*—John D. Lang, Maine, H. F. French, N. H., Fred. Holbrook, Vt., B. B. French, Mass., Jos. J. Cooke, R. Island, John T. Andrew, Conn., Henry Wager, N. Y., Isaac Cornell, N. J., Isaac Newton, Pa., C. P. Holcomb, Del., H. G. S. Key, Md., G. W. P. Custis, Va., Henry K. Burgwyn, N. C., Jas. Hopkinson, S. C., D. A. Reese, Ga., A. P. Hatch, Ala., J. D. B. DeBow, La., Gen. Whitfield, Kansas, J. T. Worthington, Ohio, R. Gratz, Ky., M. P. Gentry, Tenn., Jos. Orr, Ind., J. A. Kinnicutt, Ill., Thos. Allen, Mo., T. B. Flournoy, Ark., J. C. Holmes, Mich., Jackson Morton, Fla., T. G. Rusk, Texas, J. W. Grimes, Iowa, B. C. Eastman, Wis., J. M. Horner, Cal., Jos. H. Bradley, D. C., S. M. Baird, New Mex., H. H. Sibley, Minn., Jos. Lane, Oregon, J. L. Hayes, Utah, Mr. Giddings, Nebraska.

Executive Committee.—John A. King, N. Y., C. B. Calvert, Md., A. L. Elwyn, Penn., J. Wentworth, Ill.. B. Perley Poor, Mass., A. Watts, Ohio, John Jones, Del.

Secretary—William S. King, Boston, Mass.

Treasurer—B. B. French, Washington, D. C.

GUANO.

As the season has come for putting in spring crops, we copy the following article from Browne's *Field-Book of Manures*:—

GUANO, or *huanu*, which signifies in the Peruvian or Quichuu language "manure," is now well known to be the excrements of various species of sea-fowls, such as cranes, flamingoes, mews, divers, &c., which resort in immense numbers to small uninhabited islands or rocky promontories on the coasts of Africa and South America, where they have remained in undisturbed possession for ages, and on which their dung and exuvia have gradually accumulated in some instances on the coast of Peru, according to Humboldt, to a depth of 50 or 60 feet; but then deposits for a period of 300 years had not formed a bed of more than from ⅓d to ½ of an inch thick.

As regards the history of this substance, we read in all the works relating to the ancient agriculture of the Peruvians of its value as a fertilizer, and admire the provident use made of it by the Incas, long before that patriarchal race of monarchs had been exterminated by their chivalrous invaders, the Spaniards. For more than a hundred years, the early navigators to the Pacific had noticed the guano islands, and had seen cargoes of this deposit conveyed to the adjacent mainland, where they must have witnessed the greater luxuriance of the herbage, as well as the increased weight of the crops, wherever it was applied. European and American merchants, also, who have had opportunities ever since the declaration of Peruvian independence, of forming establishments of their own on the coast, as well as in the interior, could not have been ignorant of the use made of guano by the natives, and the astonishing effects it produced on their crops. The delay, therefore, of introducing it into Europe and elsewhere, could not have occurred through the want of a knowledge of its value and applicability to a foreign soil.

It was not until the year 1806, that the true nature of this substance, as a fertilizer, was communicated to the scientific world, when a sample was transmitted by Humboldt, on his return from South

America, to Messrs. Fourcroy and Vauquelin, of Paris, two eminent chemists, who made a most careful and elaborate analysis of it, the results of which are published in vol. lvi. of the "Anales de Chimie." They found it to contain ¼th of its weight of uric acid, partially saturated with ammonia, and small quantities of sulphate and muriate of potash, mixed with portions of quartzose and ferruginous sand. From this circumstance, a knowledge of its value was communicated to most of the enlightened agriculturists of Europe, as well as of the United States, but no application was made of it in either country before the year 1824, when the late Mr. SKINNER, then editor of the "*American Farmer*," received two barrels of it at *Baltimore*, and distributed it in small parcels for experiment. Governor *Lloyd*, of Maryland, an intelligent and enterprising farmer, to whom a portion was sent, pronounced it "*the most powerful manure he had ever seen applied to Indian corn.*"

But no further measures were taken to introduce this manure, with the exception of a few samples sent home by travellers in Peru, with which experiments were made in Europe and in this country, more as a matter of curiosity than from any other expectation, until the year 1840, when 20 barrels arrived in England to test its quality upon the soil. At first it was used with great precaution; and notwithstanding the astonishing results of the earlier experiments, the fear that the enormous crops which it produced might exhaust the land, deterred the British farmers, generally, from availing themselves of so valuable a manure. Repeated experiments, however, having convinced them that it imparts great vigor to the plants, without injury to the soil, and that it is the cheapest as well as the most nourishing fertilizer known, the increase of its consumption was such, that, from a few tons employed in 1840, the whole amount imported into that country up to the beginning of the year 1850 was 300,000 tons!

From this great consumption of guano in England, and the success with which it was everywhere attended, its introduction became gradual into the United States; and for the last few years past, the demands for a genuine article have been so great that the farmers along the Atlantic coast, that their wants could not be supplied.

Independently of the immense quantities imported from Bolivia and Peru, guano has been obtained from Ichaboe, a rocky islet on the coast of Africa, from which many thousand tons were shipped, and which has been stripped down to the very rock itself by the emissaries of the greedy agriculturists, and then abandoned to solitude. Considerable quantities have also been brought from Patagonia, Chili, and the islands of the South Sea; but, as might have been expected from the nature of the climates in which they were obtained, they were either found to be worthless, or far inferior in quality to those of Bolivia and Peru.

From this great and insatiable demand for guano in England and elsewhere, the most wilful adulterations have been made in that country, confined principally to the Peruvian, by mixing it with gypsum or sand, or more correctly speaking, with a kind of brownish-yellow loam, not differing much from the color of guano itself; but as ready means have recently been discovered for detecting these frauds, together with severe enactments for punishing the perpetrators, the practice, it is hoped, will soon become obsolete.

Guano, like all kinds of animal excrement, varies materially in its quality according to the nature of the food habitually used. The richer and more nutritious it is, the greater will be the fertilizing properties of the manure. Hence, the dung of the highly-fed race-horse is more valuable than that of the drudge released from the cart, and kept upon low fare. For the very same reason, the excrementitious deposits of birds feeding upon fish or flesh afford a stronger manure than parrots or pigeons, which live on berries and grain. Again, guano is very materially influenced by the age and climate in which it is found. Thus, during the first year of its deposit in Bolivia or Peru, the strata are white, and abounding in uric acid; but in the lower strata, which have existed, perhaps, for ages, the color is a rusty red, as if tinged with oxide of iron. They become progressively more and more solid from the surface downward—a circumstance naturally accounted for by the gradual accumulation of the strata, and the evaporation of the volatile parts. *In all climates subject to rains and heavy dews the guano exposed to their influence undergoes fermentation, loses a portion of its ammoniacal salts by the decomposition, and thereby is diminished in value.* The excrement of the birds when first deposited is rich in nitrogenous compounds. No ammonia, as such, exists among its constituents; but the access of air and moisture induce a slow decomposition, by which ammonia is generated, and when the circumstances are favorable, it escapes into the atmosphere. Wherever moisture is abundant, these changes are most rapidly effected; whereas, on the other hand, a *dry* climate, and a rapid accumulation of the deposit, are more likely to insure its preservation in a comparatively unchanged state.

From the preceding remarks, it is obvious that the composition, and consequently the value, of the different kinds of guano will vary according to the age and localities from which they are obtained. From numerous analyses and experiments made with those sorts in most general use, their rank in the scale of this class of manures, together with other circumstances connected with their production and application, stand in the following order:—

Anagamos guano.—By a subsequent table, it will be seen that this guano contains a larger per centage of ammonia, with a due share of phosphates, than any other kind in the list. It is a perfectly recent deposit, collected by hand from the rocks, which account for its richness. Although it is not distinctly known whether the composition of the dung of birds, recently voided, is perfectly alike, we have reason to suppose that of all sea-fowls—all piscivorous, and nearly alike in their habits—cannot greatly differ. From this circumstance, it is worthy of investigation to ascertain whether the *Florida guano*, deposited on the Keys by immense flocks of flamingoes, pelicans, and other aquatic birds, cannot be collected after the manner of that from Anagamos, and turned to profitable account.

Peruvian guano.—From the large amount of ammonia and phosphates contained in this kind of guano, together with the almost inexhaustible supply, and the circumstances attending its origin, collection, and importation, the farmer can more implicitly rely upon it for fertitizing his fields than on any other. Being the production of a climate where rain seldom or never falls, its composition becomes less altered, and its character less varied, except in color, than those varieties found further north or south.

During the first year of deposit the strata are white, when it is called by the natives *guano blanco*. In the opinion of the Peruvian cultivators, this is the most efficacious kind, as less quantity suffices, and the field must be more speedily and abundantly *watered* after it is applied; otherwise the roots of the plants would be destroyed.

In the deepest deposits, the uppermost strata are of a greyish brown, which gradually becomes darker as they are opened downward. In the lower strata the color is rusty red, as if tinged with the oxide of iron. The beds become progressively more and more solid from the surface downwards, a circumstance naturally accounted for by the gradual deposit of the strata and the evaporation of the fluid partially—the result, perhaps, from an uninterrupted accumulation during many thousand years.

As before remarked, the wilful adulteration of guano is believed to be confined almost entirely to the Peruvian. Hence much precaution is necessary on the part of the farmer in making his purchases; otherwise he is liable to be deceived. It is not enough to know that the 'substance is of a brown color, sufficiently dry, with a tolerably strong smell, and appearing to contain little or no gritty matter when rubbed between the fingers;' for, if genuine, all guanos have a general character running through them. For instance, they invariably contain feathers and comminuted shells; water, of course; organic matter, always; crystalized gypsum, *never;* carbonate of lime, commonly; phosphate of lime, always; super-phosphate, *never;* and nitrogen or ammonia, invariably. Several of these points can only be determined by accurate analysis, which farmers in general are incapable of doing. All the risk and uncertainty, therefore, to which the farming public is now subjected, might be avoided if they would give up seeking for *cheap* guano, buy from dealers of known character for honesty, and insist that the purchase shall be guaranteed to be of the same composition as a sample analyzed by some chemist of well-known accuracy and veracity.

In selecting samples for analysis, it should always be taken from as many bags as possible. A large handful or two should be selected from, perhaps, a dozen different bags, and the whole laid on a large sheet of paper, and mixed carefully together with the hand. From this about a pound should be taken, and the remainder returned into the stock. This precaution is desirable in all sorts of guano, but is quite indispensable with the inferior kinds, which frequently differ very much in different parts of the same cargo.

Bolivian guano.—Next to the Peruvian in value as a fertilizer, stands the Bolivian, which, from the similarity of the climate in which it is produced—being obtained only a few degrees further south—has been placed in the very first rank of excellence. Some cargoes, however, have proved to be of very inferior quality, obviously having been adulterated, or had been subjected to moisture or long exposure to the wind and sun.

Chilian guano.—Of this fertilizer two qualities have been imported. The one most commonly met with is of a most inferior description, and scarcely deserves the name of guano; but there is another and a very valuable variety, although *rare*, which is imported from Valparaiso, and is stated to be collected on the rocks. It is quite hard, and comes in large pale-yellowish masses; and, in value, it is said to be equal to that of the best Peruvian.

Ichaboe guano.—This guano, although abundant a few years since, has now almost entirely ceased in its supply. It is designated under the names of the '*old* and the *new* Ichaboe,'—the former being a deposit of probably many centuries of age, which had been exposed to the sun, wind and rain, and consequently had lost a large share of its virtue, and hence inferior in its value. Soon after its discovery, the whole of the deposit with which the island was covered was entirely removed. So completely, indeed, was this done, that the last cargoes carried away were but little better than sand, and the island was again abandoned to the birds. Since that time, the sea-fowls returned, rapidly formed fresh deposits, and other importations have been made, designated under the name of the '*new* Ichaboe,' which proved on analysis to be much richer than the 'old.' It appears that the recent Ichaboe contains an amount of ammonia not far short of double that contained in the older deposit, and between 3 and 4 per cent. more than the highest percentage hitherto observed. It approaches in composition much nearer that of Peru, both in this respect and in the small amount of phosphates and larger quantity of alkaline salts which it contains. In one other respect, also, it is remarkable—and this is, in the considerable per-centage of carbonate of lime, of which traces only are found in the oldest deposits, and none at all in the Peruvian.

Patagonian guano.—This variety, from the high latitude in which it is produced, and subjected as it is to frequent rains, alternated by intense sunshine and drying winds, has usually been purchased at higher prices than its quality justifies. Its *inferiority* to Peruvian or Bolivian guanos is very marked, especially in its amount of ammonia; and from numerous analyses, it has been ascertained that it contains a considerable quantity of sand—in one case, at least 38 per cent. This guano, it is believed, never is wilfully adultered. In fact, its *quality is so low* that it will not bear it. There is said to occur among this guano considerable quantities of crystals composed almost entirely of the salt called 'ammoniaco-magnesian phosphate,'—which, when pure, contains no less than 7 per cent. of ammonia. These crystals, it has been stated, have been carefully avoided by the captains of vessels, with the impression that they were of no value.

Saldanha-Bay guano.—This variety, like the Patagonian, comes from a latitude and climate subject to heavy rains, alternated by an intense sun, and consequently loses the greater part of its ammonia, unless it is collected in a very recent state. Its chief value as a fertilizer consists in its phosphates, which range higher than those in any other variety hitherto known.

The foregoing includes all the varieties of guano that have appeared in any quantity in the European and American markets, the average composition of which is indicated in the adjoining table, by Dr. Thomas Anderson, Chemist to the Highland and Agricultural Society of Scotland. In the more common guanos, the average is deduced from a large number of analyses, made by himself in his own laboratory, or from those of others in whom he could implicitly rely.

☞ We call attention to the advertisement of Messrs. Seymour's Drills. We have testimony of a high character of these Drills, and can, we think, recommend them with much confidence.

	Anagamos.	Peruvian.	Bolivian.	Chilian Fine.	Chilian Inferi'r.	Ichaboe Old.	Ichaboe New.	Patagonian.	Saldanha Bay.
Water,	13.61	13.73	15.79	6.06	15.09	24.21	18.89	24.36	21.03
Organic matter and ammoniacal salts,	57.90	53.16	56.09	54.51	12.88	39.30	32.49	18.86	14.93
Phosphates,	19.50	23.48	15.13	11.96	16.44	30.00	19.63	41.37	56.40
Lime,	....	....	0.15	1.37	8.93	....	2.49	2.94	....
Sulphuric acid,	....	....	....	....	....	....	....	2.21	....
Alkaline salts,	6.97	6.97	6.81	10.25	6.04	4.19	6.91	2.70	6.10
Sand,	2.02	1.66	6.03	15.85	40.62	2.30	19.59	7.56	1.54
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Ammonia,	20.58	17.00	19.71	18.80	2.11	8.50	10.42	2.66	1.62

A moment's inspection of the table will render apparent—much more clearly than words can—the great difference in the composition of the different varieties of guano; and as their values differ quite as much as their composition, it is of so much importance for the farmer to have a ready means of estimating from the composition their value.

Now, practically, there are only two constituents which require to be taken into consideration in the estimate of the commercial value of a guano, and these are the *ammonia* and the *phosphates*. With the exception of the alkaline salts, none of the other constituents have any value; and these last, though no doubt worth something, are too small in quantity, and too unimportant to deserve consideration. In order to estimate the worth of a guano, then, we require to know the value of ammonia and phosphate of lime; in other words, the price at which they can be bought in the market, in other forms than that of guano. Professor Way, of the Royal Agricultural Society of England, has gone fully into the question, and has deduced from a variety of considerations, that the value of ammonia is very nearly sixpence per pound, and that of phosphate of lime about three farthings per pound. Suppose, then, we wish to estimate the value of a ton (2000 lbs.) of Peruvian guano of the average composition, we calculate from the per-centage the number of pounds of ammonia and phosphates present in it; and calculating 12½ cents for each of the former, and 1½ cent for the latter, we have the value of the ton. Thus:—

17 per cent. of ammonia is equal to 340 lbs. in a ton of 2000 lbs., at 12½ cents, ...	$42 50
23.48 per cent. of phosphates is equal to 470 lbs. in a ton, at 1½ cent . .	7 05
Value of a ton of Peruvian guano,	$49 55

Exactly in the same manner we are enabled to find the following value of a ton of Saldanha Bay guano:—

1.62 per cent of ammonia is equal to 32.4 lbs. in a ton, at 12½ cents . .	$4 05
56.4 per cent. of phosphates is equal to 1,128 lbs. in a ton, at 1½ cent . .	16 92
Value of a ton Saldanha Bay guano	$20 97

Strictly speaking, something should be allowed for the alkaline salts present; but the exact value cannot be estimated without some difficulty. It might average from $4 to $5 per ton, which should be added to the above, thus making Peruvian guano worth about $54 a ton.

Guano, like farm-yard manure, it is hardly necessary to state, may be applied with advantage to almost any kind of soil, as well as to most of our cultivated crops, as it contains every element necessary to their growth, independent of the quality of the soil—one great point being attended to—that the land be in good *tilth*; for otherwise, the tender roots of the vegetables would meet with obstruction, and become crippled in their growth. Poor well-tilled soils receive the most advantage from this fertilizer, as they are most generally deficient in some essentials necessary to the growth and perfection of the plant."

CLASSIFICATION OF MANURES—OF FISH MANURES.

By John P. Norton.

Another animal manure is fish, and one which is of very great value to districts near the sea. In many waters, white fish and many other varieties are caught in immense numbers for this purpose alone; in other places large quantities of refuse, the heads and cleaning can be had. These are all extremely valuable. On the Chesapeake Bay, in Maryland, the farmers collect this refuse from the fisheries with great eagerness, and cart it many miles inland. In other sections it is neglected entirely.

The flesh of fish contains large quantities of nitrogen, and acts with much energy in hastening the growth of plants. The bones contain more water, and consequently in their wet state, less phosphates than those of animals; but this very softness occasions their rapid decay, and more speedy action. Dry fish bones are richer in phosphates than the bones of animals. Fish decomposes so quickly, that it should either be ploughed under, or made into a well covered compost heap at once: probably

the last is best. It is difficult to cover them in the soil so that some loss shall not take place.

The use of this manure, for the reasons given above, has been confined to the immediate vicinity of the sea-coast. It would be very desirable to find some method of preserving it so that it might bear transportation, without losing its good qualities, and without becoming offensive. Experiments are now being made, with a view to this result, which bid fair to prove entirely successful, and to bring this admirable manure within the reach of the interior at a reasonable rate.

On many parts of the Scotch coasts, there are extensive beds of scollops and muscles, which are got up and applied largely to the land with excellent effect. Our farmers near the sea would do well to seek supplies of this kind also. The shells of all shell fish are valuable, on account of the lime which forms their chief bulk, and the animal inhabitants are remarkably rich in *nitrogen*. They all decompose rapidly, and require immediate attention to prevent loss.

Thin shells, such as muscles, soft clams, etc., crumble down quite rapidly; thick shells require cracking and crushing, to ensure speedy decomposition.

Besides *lime*, a careful analysis would show a very large proportion of phosphate of lime.

ED. AM. FARMER.

SEA-WEED.

In a work recently published in England, entitled, "*Modern Husbandry*," we find the following brief though satisfactory account of Sea-weed, and as there are numerous places on our seaboard and rivers and bays where abundant supplies are periodically to be had, we copy it for the benefit of our readers:

"SEA-WEED."

This is in many situations a most valuable manure, and is much sought after; there are seven different kinds, producing different results. On some parts of the west coasts of Ireland and Scotland immense masses of this manure are cast up on the shore, from whence it is removed inland, and either ploughed in at once or burned for kelp; the best manner of using sea-weed for manure, is to get it underground as quickly as possible.

In the Channel Islands, the gathering of sea-weed is a great affair. Twice a year, every one is allowed to get as much as he can, consequently every species of vehicle is called into requisition, and all hands turn to for the sea-weed harvest. The scene is most exciting; all the shores of the island are covered with the country people, and horses, bullocks, donkeys, and every other animal that can pull at a pinch, is made to work on this occasion.

The effects of sea-weed as manure, must principally depend upon the carbonic acid—and the soluble mucilage the weed contains; it is always a powerful fertilizer, but its benefits are not long felt.

Note by the Editor of the American Farmer.

That the "*carbonic acid*" and "*soluble mucilage*" contribute largely to the fertilizing effects of sea-weed, there can be no question, but there are various other substances to be found in it that exert their salutary influences, and which should not be overlooked. In a series of analyses made by Professor Johnston, the following were the results:—

Potash and Soda from	15 to 40	per cent,		
Lime	"	3—21	"	"
Magnesia	"	7—15	"	"
Common Salt	"	3—35	"	"
Phosphate of Lime	"	3—10	"	"
Sulphuric Acid	"	14—31	"	"
Silica	"	1—11	"	"

In the above analysis we have all the essential inorganic elements which enter into the constitution of plants, and we have them too in a condition to be speedily availed of by the growing plants, as from the nature of sea-weeds, decomposition rapidly takes place, and the food which it yields is immediately appropriated by the plants. The proportion of potash, soda, lime, common salt, phosphate of lime and sulphuric acid are large, and as every analysis that has ever been made of vegetable products cultivated by man, clearly demonstrates that each and all of these substances are absolutely necessary to their healthful growth, it follows as a natural conclusion that the offices performed by the substances named are of great importance in the development and fruition of all vegetable structures.

Independently, however, of the inorganic constituents, as shown by the analysis, sea-weeds contain, when fresh, notable quantities of nitrogen, which adds greatly to their efficient action, and imparts considerable value to them as manure. The observation and practice of farmers go to confirm what theory would indicate as the true mode of application, viz: that the sooner they are ploughed in after being spread upon the ground the better. But where it may not be convenient to plough them in as taken from the water, or shores, by composting the sea-weeds with mould or earth of almost any kind, mingled with plaster, their organic or animal parts may be preserved from waste.

LAWN GRASS SEEDS.

The following estimate is made by R. Sinclair, Jr. & Co., Seedsmen of this City, for a Lawn of one acre. It includes those sorts only that are particularly fine and such as adorn the most beautiful parks in England and this country—viz: Crested Dogstail, ¼ bushel; Sheep-fescue, ¼ bushel; Hard-fescue, ¼ bush.; Red Top, ⅜ bush.; Kentucky Blue Grass ⅛ bushel; Perennial Ray Grass, ¼ bushel; White Clover, 4 quarts.

The estimate is heavy for field sowing, but full light for Lawns, thick sowing being requisite to produce a dense, compact and beautiful sod—price for above, $9. *To insure success* the ground should be rich, well plowed and harrowed—sow immediately after the last harrowing or brush, afterwards roll the ground. For spring sowing it is recommended to sow ¾ bushel wheat or ¼ bushel oats per acre, with the Grass Seeds, and when the grasses are fairly up, ¾ bushel plaster per acre. Cut the grain when in flower, or after it has served to protect the young grass plants from the hot sun and weeds.—Good Lawn mixtures from same house can be had for $5 per acre—also mixtures for pasture, hay, &c.

ERRATUM.—In our March No. in the statement of "Delaware Farming" the initial of W. Tybout was incorrectly made L instead of T.

In the communication of James T. Earle, Esq. in March No. for "your" in fifteenth line, read "years" and for "he," in same line, read "we."

☞A communication from Dr. Higgins is received, and will be attended to in our next.

THE RECIPROCITY TREATY.

From a pamphlet containing the able paper on the Reciprocity treaty published in our February number, and a continuation of the argument, with the Senatorial history of the treaty, we make extracts, giving portions of the arguments of Senators Pearce and Hunter, and the views of "A Middle State Farmer" on the monopoly of the coasting trade. We commend the subject to the earnest consideration of our readers, and congratulate them, that out of their own body is found an advocate of their interest so full of spirit, intelligence and ability as "A Middle State Farmer." It is another of the signs of the "good time a coming" of which we begin to see a number.

"It may be thought, that the favor this measure is supposed to have received from the commercial and manufacturing interests has been too much taken for granted, and that no sufficient proof that the ratification of this treaty was mainly brought about by New York millers and merchants, and New England manufacturers, has been or can be produced.

The proof, however, is at hand, though some of the evidence, it must be confessed, is rather circumstantial than direct. The parties—particularly the New England manufacturers—did not care to commit themselves before the country to so open a betrayal of the agricultural interest, having pledged themselves in every shape and form, at every election involving the fate of the tariff, that the home markets which our farmers were thus to be taxed to create, should be exclusively theirs to possess and enjoy.

A short narrative of the order of events will show with whom this reciprocity measure originated, by whom, and by what arguments it was supported, by what votes it was finally carried, and also incidentally, by what means the votes of Southern Senators representing agricultural States was obtained for it.

General Dix, a Senator from New York, specially representing, as well understood at the time, the milling interest of Northern New York, and the commercial interest of the city of New York, and warmly sympathizing in the success and prosperity of New York internal improvements—her canals and railroads—prepared a bill embracing the substance of the present treaty, which was introduced by his friends into the House of Representatives during the early part of the session of 1849, and which bill, as Senator Pearce subsequently stated in his place in the Senate, was, "unaccompanied by any report, passed without discussion;" and as he, the Senator, "believed, without any knowledge of a majority of the members of that body."

It came before the Senate, we are informed on the same authority, "without any report, and no papers accompanying it." A brief explanation of the bill was now given by Senator Dix; but this so far from satisfying Senators, only sufficed to call their attention to the obnoxious, selfish and local character of the legislation sought.

Senator Pearce attacked it in a masterly speech of great ability, and showed the injustice that would be done to agriculture by thus throwing down all barriers so far as this interest was concerned.

He said: "I think it is a very important measure, a departure from the general revenue policy of the country, involving in its consequences, direct and remote, a probable and a serious injury to one of the greatest interests of the country—an interest as little or less protected than any other, and quite as much entitled to the benefit of direct or incidental protection as any. The bill proposes to allow the importation into the United States from Canada, free of duty, of wheat and breadstuffs generally, and other products of that colony, upon condition that similiar articles, the product of the United States, may be imported into Canada free of duty.

Now, sir, there is really no reciprocity in all this: the bill is delusive. If it pass, not a dollar's worth of all these products will be exported from the United States to Canada. * * Canada is not and cannot be a market for such products of the United States; while a direct effect of the bill is to give her a participation in our home market—so that there will be no equivalent afforded to us; certainly none to the great grain growing interest, which is mostly concerned in the legislation on this subject. * * This bill, therefore, may be considered as the first movement towards the withdrawal of all, even incidental, protection to the grain growers of the United States, while other great interests retain the protection which the tariff of 1846 gives them. I do not think the people interested in the agriculture of the country will be satisfied with this. If they are not to have an equality of benefits, they will insist upon an equality of another sort. Benefits not generally given must be generally withdrawn, and other interests must abandon the protection given to them. Certainly there is no equivalent offered by this measure to the agricultural interest. Whatever benefit is to be derived from it, will enure to the millers of Northern New York, to Northern railroads and to Northern shippers and manufacturers, and to them the profits must be much smaller than the injury to the agricultural class. * * But surely, in a country like ours, that produces a surplus of twenty to twenty-five millions of bushels of wheat, beyond all the wants of our ordinary consumption, we have a right to ask that we may enjoy our home market without competition from other countries, on terms such, as apply to no other great interest of the country.

The Senator also forcibly contended that our treaties with other countries, particularly with Prussia, would compel us to admit their produce on the same terms we did the produce of Canada—a position in which he was subsequently sustained by Mr. Hunter.

But Mr. Hunter also ably opposed this bill on its merits, and which bill be it remarked, *is identical with the treaty, so far as the Senator's objections to it went.* He asked: "Is it fair to take away all the protection afforded to the agricultural interest, while you retain that afforded to the manufacturing interest? * * It would seem as if the agricultural interest were considered a great beast of burden, doomed to bear all the loads to be imposed upon the productions of this country; and we tax it freely and without remorse.

"Now, sir, I am willing, so far as the agricultural interests are concerned, to place them on the footing of free trade, provided all other interests are placed on the same footing. But to allow the manufacturing interest to receive high protection, and to take from the agricultural interest all the protection that is afforded to them—and that much less than is afforded to others—is unfair and unjust."

Alluding to the act of 1846, by which the Canadians were allowed to send their produce through

our ports subject to a drawback, and which law passed Congress, by the bye, as silently and hurriedly, if not *clandestinely*, as the Reciprocity bill did the House of Represensatives, "without a knowledge of the majority of the members of that body" —Mr. Hunter said :—"We have thus done all that is necessary to give New York all the profits and advantages arising from the carrying trade between Canada and foreign ports. We have done all that is legitimate for us to do—all that the commercial interest requires—and now they come here and ask that they may be allowed to receive the productions of Canada, free of duty, for home consumption. While the manufacturers of the North and East have the protection that is afforded them under the present tariff, they are to be allowed to receive breadstuffs free of duty from Canada, and probably the Baltic also. Now, sir, this is unequal, in more than one point of view—unequal, not only between the agricultural, commercial, and manufacturing interest, but also unequal between different sections of the country. * * The commercial and navigating interest have all they can rightfully demand in the act allowing a drawback on Canadian productions shipped from our ports.

But they have no right to demand, and surely the manufacturing interest ought not to expect, us to injure the agricultural classes by the passage of such a law as this for their benefit. *With these views I am opposed to this bill, and hope the Senate will not agree to its adoption.*"

After giving some facts relative to the action of Congress on this subject, the writer adds:

In reference to the commercial interest, whoever will look at the course of the Commercial Press, and the articles with which it teemed, from Boston to Charleston, in the Autumn of 1853, when the suggestion had been thrown out that the Administration contemplated treating upon the disputed Fishery question, by offering the British a participation in our coast-wise commerce, as we were already enjoying a free participation in theirs, will see that the Commercial Press, and Commercial men, were determined to concede nothing. And this stand they took, though the matter in dispute was all about waters to navigate. They insisted even in such a case, that the consideration should come from the Agricultural interest, and any equivalent to be rendered, or sacrifice required to be made, should be made by this interest. They endeavored at least to hedge in the Administration, by operating upon public opinion, in such a way as to prevent from laying hands on the monopoly so long enjoyed by our merchants. It was nothing to them, free traders as most of them profess to be, that Great Britain had already thrown wide open her coasting trade, and thus challenged a reciprocity. They wanted nothing to do with reciprocity in commerce—in sailing ships with British merchants, but were for reciprocity in agriculture, of letting American farmers grow grain to send to Canada—coals to Newcastle—while Canadian farmers sent grain to our markets, which the farmer has been taxed for a quarter of a century to build up, and is now taxed to keep up.

Can the passive endurance, the stolid indifference of this great agricultural community, be counted on to this extent? Will they, under the pretext that it is policy to "build up commerce," longer consent to the monopoly the American merchants has in carrying all their produce coast-wise—bluffing all other carriers off with the exhibit of an American bottom? The farmers have stood this blockade of the mouths of their rivers and their ports long enough. It is not only to build up commerce, but to build Merchant Princes, that this huge monopoly is continued. Why should all the producers throughout the great valley of the Mississippi, pay on all the grain, pork, bacon, lard, hemp, and tobacco, that arrives at New Orleans, and is shipped thence to any northern port, or any port on our continent, two or three cents a bushel more on their grain, fifty cents or a dollar a barrel more for their flour or their pork, than an English, or German, or French vessel would take it for, if permitted to take it at all. The same tax is levied, the same tariff of freights, affects the whole cotton and sugar crop having a coast-wise destination. It has always been an onerous tax; continued to this time, it is a downright imposition. In estimating the advantage thus given to the American coast trader, as equal to a tariff of tolls from 25 to 50 per cent. above what it could be carried for if the carriers of other nations were allowed to participate in it, I am governed by the opinion of one of the most practical, experienced, and best informed commercial men of the country, who has no interest whatever in the question, and whose sympathies, I believe, are with his former associates.

When this monopoly under which such high and heavy contributions are laid upon all classes of producers was first established, the case was different. Then our commerce was limited: then our coasting trade was small. Now it employs a tonnage about equal to all our other tonnage afloat. It employs 2,312,114 tons. Our foreign commerce but 2,333,-891 tons, a small excess, of less than 22,000 tons. To allow this immense fleet to sweep along a coast of thousands of miles, embracing the shores of two oceans, authorized by Acts of Congress to blockade the mouth of every river, to close up every port, except as American coast-wise produce is delivered to them on their own terms of freight, is I repeat, a *monopoly of the most gigantic character*, a restriction of trade and commerce, that it is really amazing, should so long have been submitted to. The powerful influence of the Commercial Press, that so zealously and perseveringly represents this interest, can alone account for it. Its efforts have always been mainly confined to represent and advocate the commercial and manufacturing interest. Take the last quarter of a century, and every thing this press has said about agriculture, would hardly fill a half a column in each yearly issue. I speak of the Commercial Metropolitan Journals. It was not until the present season, when the national calamity of a general drouth came upon us, that the press hardly paragraphed the prospect and condition of the crops.

How has its course in this respect contrasted with the English commercial press where the condition of agriculture, the condition of the crops, the state of the markets, are weekly discussed, and the public kept informed of the prospects of this great interest, more intimately connected than any other with the welfare of the people.

Of our production, our northern commercial press has generally nothing to say beyond a stereotyped paragraph, to the effect, that the Cornucopia is the just emblem at *all times* and in *all seasons* of our rural districts. Then for the condition of the markets, their view is intensely fixed on the *Mark Lane Express*. They look towards the rising sun, for there their customers sell; seldom towards the

golden west or sunny south, where most of what they sell comes from, and if it was known in time what there really was in the country to sell, this fact would very naturally have something to do in regulating prices. They are content, however, to report the "news by the last steamer," and no time is to be lost in giving this out, as it fixes, until another steamer arrives, the value of what we have to sell, whether we are within five hundred barrels of flour of the margin of all we have to part with, or five hundred thousand below it. This is the length and the breadth, rather narrow it must be confessed, of the exhibit generally made by our Commercial Daily Press, of our production and our markets. But I am glad to say, that there are a few, especially recently, honorable exceptions to this. Within the last Summer and Autumn especially, some few of the conductors of our daily press have grappled with the subject of production, consumption, markets, &c., and laboriously and ably investigated and discussed it. Nor is the fault all their own that they have not done so earlier, and oftener, before. They have been but following the fashion established by our public men. Agriculture has hardly been named in Congress, in a quarter of a century. It is notorious it is only publicly named, outside of the farmers themselves, in Fourth of July toasts, where, thanks to the patriotism of one day in the year, it even takes precedence of commerce and manufactures.

Unfortunately, from the days of Alexander Hamilton, down, the effort has been to make the country in what it naturally was not great. Commerce was to be "built up" and piled up; manufactures were to be established, (all right,) but they were to be protected, indulged, and pampered, until in fabricating we excelled the world. These interests were to be first, "the rest nowhere." Such was the fashion of the times, that even the farmers themselves formerly thought the sacrifice too great to confine a "smart" son to agriculture, though it might do for the blockheads, while to enter any of the professions was equal to obtaining a patent of nobility.

But public opinion is changing, the fashion is changing, and public men will change, and editors will change, and it will be thought after all, that we should not lose sight entirely of what brought our fathers here, of what has mainly supported us here, and increased us, and multiplied us, until we have become a great nation! our Agriculture.

Our coast-wise commerce then, I contend, should at once be thrown open to the common carriers by water, of all the world.

In connection with the above, we place on record the following remarks of Mr. Clayton of Del. on the same subject in a recent speech in the Senate:

"Mr. President, I rose only to say a few words. Allow me now to add one or two things more, and I shall have done. After having, for more than a quarter of a century, voted with my friends of the North, and with the manufacturing interests generally, I find myself, and those whom I represent, "whistled down the wind, a prey to fortune." I find that the basis, the very ground work, on which I have heretofore sustained the protective policy, is taken from under my feet by its own professed friends. I must be permitted hereafter to maintain my own independent position, truly representing those who sent me here, on this question. And let me say, sir—for I think it proper now to indicate so much—that, in my future action in reference to the tariff, in consequence of the revolution which has occurred in other quarters, and has been announced to us here, instead of following the lights which have passed away, I shall stand here as a faithful representative of the farming and agricultural interests of the country, and shall regard them as paramount to all others in every vote I shall give."

"Let us examine the claims I now make for the farmer, and see whether I ask protection for him, and how. A duty of twenty per cent. was never called a protective duty; it was never regarded as any thing more than a revenue duty. You have repealed this duty, so far as it was laid on British North American agricultural products, by your treaty. In the year 1833, when we passed the compromise act, which settled the then existing differences between North and South, I was one of those who participated in that action. At that time men both from the South and North agreed that a duty of twenty per cent. was not a protective, but a mere revenue duty, and the end of that measure was, at the expiration of nine and a half years, to bring the duties down from the existing condition of things to twenty per cent. *ad valorem* assessed on a home valuation. That was intended to be the minimum of duty: we were by that bargain never to go below twenty per cent. Every southern man was then in favor of maintaining a horizontal duty of twenty per cent. on every thing we produced, cotton included. The farmer never had any other duty for his protection than a mere revenue duty. Twenty per cent. was all that he had on his grain, and was all that protected him against foreigners for every thing he produced on his farm. He asked no more. He never asked for a protective duty, and I do not ask it for him now. But, sir, you discriminate against him. You give a protection to the amount of thirty, forty, and even fifty per cent. to the interests of the manufacturers of the country; and by the reciprocity treaty of 1854 you swept away from agriculture the whole of the former twenty per cent. which could yield protection only as it was incident to revenue, against the immense productions of the British North American provinces. More, sir, you have, as a necessary consequence of this reciprocity treaty, admitted Prussian wheat—wheat from the immense and fertile regions around the Vistula, from Dantzic, the great wheat market of the world, free of duty also."

"The same principle which was applied to exempt Portuguese wines from duty in consequence of the admission of French wines at a lower rate by the treaty of 1831, must necessarily be applied in the construction of the Prussian and reciprocity treaties. Now, sir, is the farmer to be insulted and told he demands protection when he resists this oppressive discrimjnation, which, while it gives to the commercial and manufacturing interests either prohibition or high duties for their protection against foreign competition, refuses to him the lowest duty that is given to every one else. While you are compelling him to use American manufactures or pay duties amounting to thirty and forty per cent. on foreign fabrics, while you prohibit him from sending his grain coastwise in any vessel that is not American-built and owned, commanded and navigated by Americans, you deny him even the lowest revenue duty, and buy your

very breadstuffs of foreigners duty free, degrading him to the level of the foreigner whose interests you delight to cherish. And yet you taunt him and tell him, when he complains, that he wants protection and bounties in his favor! No, sir, he wants no favors of you, he desires no injustice to others, but he will not submit to injustice to himself when it is thus grossly practised against him. He is now receiving war prices for his grain, and has to pay heavy prices for all he buys, but the reciprocity treaty has scarcely gone into operation, and now he does not feel it. When that treaty shall be in full operation, and the European war is ended, you will hear from him. These farmers have stout hearts and strong arms, sir, and when once roused to a sense of the injustice done them, I think you will have to hear from them more fully than any feeble effort of mine could induce you to regard them upon this question."

For the American Farmer.

THE NUTRITION OF PLANTS.

It is admitted, however various the substances—animal, vegetable, and mineral—necessary to constitute a fertile soil, that through the medium of water alone all nutritious materials are conveyed to plants, and that this liquid is absorbed by the roots of vegetables in proportion as it is limpid. Experiment has proved, that when the roots of plants are plunged into gum-water, sugared water, &c., these liquids soon become thicker than would come to pass from evaporation only, which proves that the roots had absorbed the most limpid part of these liquids; and experiment has also proved that a fluid such as a solution of sulphate of copper, which is hurtful to vegetable life, is absorbed more rapidly, and in greater quantities, than a viscid fluid containing materials advantageous to plants; and whilst this is thought true, it is not believed that the roots have the power to separate from water the other matters held in solution or suspension by it, because analysis proves that vegetables contain a variety of substances, not derivable either from pure water or the atmosphere, the only other source of supply. The presence of these substances in vegetables is accounted for by the fact, that the fluid absorbed by their roots is not pure water, but water holding these various articles in solution.

There are many articles thus introduced into the circulation of plants, not only such as are unnecessary to their nutrition, but also such as are actually hurtful; so that it is necessary, for the well-being of the plant, that there should be some mode of throwing these redundant substances from the circulating fluids. This, it is believed, is done by the power of the leaves and roots. The part performed by the leaves has received much attention, and is, perhaps, better understood than the part performed by the roots. But it is to the function of the roots that this short paper is more particularly devoted.

The roots of plants, besides the power of absorbing the fluid designed to nourish them, are supposed to have the power of secretion. Experiment has proved that the soil next in contact with the roots of plants for some time, is very different from that soil that does not touch them; from whence it is believed that certain matters are thrown off by the roots, by which is explained the antipathies that certain plants have for others, and which are so strong as to forbid their being cultivated together. It is believed, also, that these secretions of the roots, augmenting in the soil, finally become prejudicial to the plants that have produced them, and even to all plants of the same family; from hence arises the necessity, in agriculture, of cultivating such a succession of plants as are suited to each other. More attention to this subject is very much to be desired; and I wish to draw the attention of those who experiment, to make new examinations into the composition of the fluids circulating in plants, and particularly into the analysis of these *secretions*, or (as some prefer to call them) of the *excretions*, of the roots of plants.

I think this is the true road to the theory that will explain why *sorrel* is found to flourish both on soil with and without an abundance of lime, at one time and not at another, as well as to other matters tending to the improvement of agriculture.

Pleased with the views of Mr. P. B. Pendleton in his paper published in your February number, I place this little paper at your disposal, Mr. Editor, (as it will at least show, to some extent, the interest the "American Farmer" excites, if it should not prove worthy of a place in its columns,) in my effort to follow a good example.

FAUQUIER, VA., BLUE RIDGE.
March 15th, 1855.

CASTRATION—PREPARATION OF GRASS SEEDS.

BALTIMORE CO., *February 27th.*

To the Editors of the American Farmer.

In looking over the article on castration in your paper for the present month, it struck me that the most important part of the operation was entirely overlooked. From an experience of about 25 years, I have come to the conclusion that the main secret in the whole operation lies in the orifice made in the outer skin; let that be made as large as the parts will admit, and with seasonable care in the rest, you will have no trouble. Before I made this discovery, I lost several old hogs and pigs, and had considerable trouble with calves, frequently having to open them a second time, and had horses, altered by experienced persons, do badly. Since I have adopted the above, together with drawing the cords instead of cutting, or scraping, I have had no trouble. My colts have always been operated on by professed hands, who invariably use the clamps, but I always see that the orifice is sufficiently large to prevent it from healing over until all is right within. If you attend to this, you need not fear tetanus.

While I have my pen in hand, I will, with your permission, give a hint to such of our brethren of the plough as may intend setting their oat-ground with grass, that will save some labor if they think proper to adopt it: myself and neighbors have satisfactorily tested it; it is as follows:

When ready for seeding, place any convenient quantity of oats upon your barn or granary floor, with a due proportion of grass seeds scattered through; moisten the whole sufficiently to cause the seeds to adhere to the oats, and if convenient sprinkle the mass with a little plaster, shovel over thoroughly with a common dirt shovel, and it is ready for sowing; after which it may be covered as oats are usually done, you thereby save the extra marking and sowing, a matter of some importance when labor is scarce, beside the seed can be distributed more evenly. EXPERIENCE.

BALTIMORE CO., *February 27th*, 1855.

THE LATE A. J. DOWNING.

[From an eulogy before the American Pomological Congress, by Hon. M. P. Wilder.]

As your humble servant, appointed to speak of his 'life, character and virtues,' it is not proper for me to indulge personal and private partiality, It has been my endeavor to form such enlightened judgment of his worth, and such an unbiassed estimate of his numerous excellencies, as shall be in harmony with your own opinion, and shall command public confidence and respect. The duty we perform is without expectation of adding to the lustre of his fame. His works are his best eulogy—the most enduring monuments of his worth.

But he has gone! His seat in this Congress is vacant. Another will make the report which was expected from him! We shall much miss his wise and leading counsels in our deliberations and discussions, his prompt and energetic action in our endeavors to advance the worthy objects of this association, in the origin and progress of which his agency was so conspicuous. He has gone! He is numbered with those patrons and promoters of the ornamental and useful arts who rest from their labors;—with the erudite and sage Pickering, the wise and laborious Buel, the ardent and scientific Mease, the humorous and poetic Fessenden, the practical and enterprising Lowell, the tasteful and enthusiastic Dearborn, the indefatigable and versatile Skinner, the scientific and voluminous Loudon, and others of noble design and enduring fame.—These have fallen around us like the leaves of Autumn; and Providence now calls on us to inscribe on that star-spangled roll the cherished name of Downing, struck down suddenly when his sun was at the zenith of its glory.

He rests in the bosom of his mother earth, the city of his birth, sepulchre of his fathers, on the banks of that beautiful river where his boyhood sports, and where the choicest scenery inspired his opening mind with the love of nature—a spot which will be dear to the thousands of his admirers, and which our love to him will constrain us to visit. We may resort to his hospitable mansion, but he will no longer greet us with his cordial salutation, nor extend to us the right hand of fellowship. We may wend our way through his beautiful grounds, but he will not be there to accompany us; instead of his pleasant and instructive voice, which once dropped words of wisdom and delight on our ear, we shall hear the trees mournfully sighing in the breeze—the cypress moaning his funeral dirge, and the willow weeping in responsive grief 'because he is not.' 'His mortal has put on immortality.'

When we think of the place which he occupied in the hearts of his countrymen and cotemporaries—of the expanding interest which he has awakened in the rural arts, the refinements and comforts of society—of his unfinished plans, which others, inspired by his genius, will unfold and consummate—and of his works, which will be admired when the tongues that now praise him shall be silent in death, our sense of justice accords to him an early immortality—a fame which history will cherish, art adorn, and grateful posterity revere.

He is dead, yet how little of *such* men can perish! The clayey tenement may indeed fall and crumble, but to him who dwelt in it a place is assigned in the firmament of American genius, far above the storms and convulsions of earth—'in that clear upper sky,' where he shall shine forever to illumine the path of intelligence, enterprise and virtue, and henceforth to enkindle in the human mind a love o order, taste and beauty. We rank him with those who start improvements which advance ages after they are dead, and who are justly entitled to the consideration and gratitude of mankind.—Washington and his illustrious associates are dead; but the liberty which they achieved still lives, and marches in triumph and glory through the earth. Franklin is dead; but the spark which his miraculous wand drew from heaven, speaks with tongues of fire and electrifies the globe. Fulton is dead; but he awoke the spirit of invention which turns the machinery of man—aye, and he awoke also the genius of navigation.

'And heaven inspired,
To love of useful glory roused mankind,
And in unbounded commerce mixed the world.'

Downing also is dead; but the principles of artistic propriety and ornament, of rural economy and domestic comfort, which he revealed, await a more full and perfect development; and as they advance towards their glorious consummation, grateful millions shall honor and cherish his name. *His memory shall live forever.*

PENNSYLVANIA STATE AGRICULTURAL SOCIETY.—We find in the Pennsylvania papers the fourth annual report of the State Society of Pennsylvania, from which we gather that the Society is in a most prosperous condition. From the Treasurer's report, it will be seen that the State appropriation to the Society is $2000 per anaum—the receipts at the Fair, $24.842.31,—and the contributions to the State Fair, $2.363. Among the expenditures, for watchmen, police, gate keepers, &c. $7.059—premiums, $4.895—and Fair and plowing grounds, hay, straw and lumber, $10,076.33.

DR.	
To balance in hand as per last statement,	$6.058.64
life memberships,	420.00
interest on investments,	747.12
receipts at the State Fair, &c.	24.842.31
restaurants,	700.00
lumber sold,	4.593.53
State appropriation,	2.000.00
contribution to State Fair,	2.362.00
miscellaneous,	69.00
	$41.782.60
CR.	
By investments per order of Executive Committee,	$11.065.00
advertising, printing, &c.	1.276.49
diplomas,	400.00
stamps, postage, &c.	38.58
three hundred copies of transactions,	230.00
engraving and designs,	355.58
dies,	200.00
medals,	252.50
fair and plowing grounds, hay, straw, and lumber,	10.076.33
watchmen, police, gate keepers, hydrant fixtures,	7.059.57
premiums,	4.895.00
salaries,	1.350.00
miscellaneous,	42.07
balance in the treasury,	3.640.48
	$41.782.60
Amount previously invested,	19.000.00
" invested as above,	11.065.00
" in the treasury as above,	3.640.48
Total means of the society,	$33.705.48

AMERICAN FARMER.

Baltimore, April 1, 1855.

TERMS OF THE AMERICAN FARMER.

$1 per annum, in advance; 6 copies for $5; 13 copies for $10; 20 copies for $20.

ADVERTISEMENTS—For 1 square of 8 lines, for each insertion, $1; 1 square, per annum, $10; larger advertisements in proportion. Address,

S. SANDS & WORTHINGTON, Publishers,
At the *State Agricultural Society's Rooms*, 128 Baltimore St.
Over the "American Office," 5th door from North St.

☞MD. STATE AGRICULTURAL SOCIETY.—A very important meeting of the Executive Committee takes place the FIRST WEDNESDAY IN MAY. Every member should be present.

To CORRESPONDENTS.—In reply to a "subscriber" in Balto. Co. He need not fear to apply lime to his land, upon which superphosphate was applied last fall. For his grass land, for which he has no stable or other manure, let him use any good superphosphate. He says he has no expectaton of being able to make or buy enough stable manure to go over all his arable land—he may comfort himself with the valuable substitutes now in the market, which can be put upon his land at cheaper rates than stable manure can be bought for and hauled to any considerable distance. He may use upon his potatoes, corn, carrots, &c., any of these manures which have been tested in his neighborhood and found valuable.

To L. J. C. of Talbot Co. we reply. Sow plaster on young clover after it makes the third leaf—a bushel per acre. It pays very liberally on some lands and on others nothing at all—ask the experience of your neighbors. The month of August is usually preferred to prepare a clover fallow for wheat. For corn, plough as early as you can in Spring. Lime should be applied *after* ploughing. Lime which has been carbonated by sufficient exposure to the atmosphere will not interfere with the action of any sort of guano. We prefer generally an application of both Mexican and Peruvian Guano, in the proportion of two of the former and one of the latter, 300 to 400 lbs. per acre. As to the number of his fields we would have our correspondent rely rather on the judgment of intelligent practical men in his neighborhood, than our own, but we do say emphatically, that our farm economy generally, would be improved, by increasing the quantity of grass and the farm stock in proportion.

A correspondent from Charles Co. will find his questions as to Mexican Guano, &c., answered above. He would like to hear from some of our dairy subscribers on the subject of "drawing the milk from the bag of the cow, after she has manufactured it." We suppose our friend will find no sustitute for a good dairy-maid. Kind and gentle treatment that will put the cow perfectly at her ease during the operation—steady but quick handling, and the peculiar sleight of hand which only a dairy-maid has, are the important points.

D. A. C. from Halifax Court House, Va., wishes advice as to the cheapest manure to put upon his tobacco land. It is impossible that we can advise him, without knowing the deficiences of his soil. In the absence of that, the best reliance is upon the experience of those around him on the same sort of soil. He tried guano last year and failed; we know that in our section it is growing rapidly into avor, both for tobacco, corn, and Irish potatoes.

R. F. T. writing from Hicksburg wants advice about making a lawn. He will find ample direcions in the Farmer at different times. The important points are to make the soil *deep and rich*—sow plenty of seed—Kentucky blue grass, herds grass and white clover the best, and keep well mowed. Weeds will grow until a good sod is formed. The natural growth of green grass and white clover, will surely come in, on ground made rich enough, and after all makes the finest turf, but we generally want a quicker covering than it will make, and in that case must sow seed. The cedar tree, which makes a very peculiar growth in the neighborhood of Baltimore, is said to lose it, on being transplanted to a different soil.

A correspondent writes us, enclosing a letter of Gideon Gibson, published in the Vicksburg Whig, who gives his experience with the Oregon Pea, and denounces it as a humbug. This question of the value of the Oregon pea, seems as hard to determine as that which some years ago vexed the New York press and public, viz: "Will saltpetre explode?" The writer of this in 1848 got hold of a small parcel of what was then called "Rocky Mountain" pea. He grew this one season, and then unhesitatingly threw it aside as worthless. When he, last year, met with this Oregon Pea, it so perfectly resembled the former as he recollects it, that he at once denounced it. In the course of the season however, he got such undoubted testimonials in its favor, that he concluded there must be two varieties of pea so nearly alike in appearance, as not to to be readily distinguished. He cannot otherwise reconcile statements from reliable sources, and directly at variance with each other.

We have received several letters from friends, who, we are glad to learn, mean to make experiments in sowing the field pea with oats in accordance with our suggestions in the March No. Let us remind them however, that we do not advise large and expensive experiments. As fair a trial can be made on one acre as on ten. Our friend Mr. Hewlet, of Balto. Co, has been for a number of years improving with the pea, and considers it a very important means of bringing his land to its present very high condition. He sows upon his corn land without oats, and fallows for wheat in the fall. We are indebted to the kindness of Mr. Hewlet for a bag of the black pea which we mean to sow with oats.

PROGRESS OF SCIENCE—COWS AND CHEMISTRY.

Undoubtedly Agricultural Science is going ahead "*to Bosting.*" A good man up there has a cow, that instead of going quietly off "to grass" as a cow should, hunts around the yard for a *bone*, and then stands and chews it for an hour. The owner thinks he has read some explanation of the phenomenon somewhere, but can't recollect what it is, and writes off immediately to an agricultural editor for light. The learned editor suggests that a scientific solution of the matter has been given in previous numbers of his paper—that the cow is a milk-giving animal—that milk contains a large per centage of phosphate of lime, and that the bone yields readily the requisite *phosphates* when properly *chawed* up. Of course this is the scientific theory, and the practical application is, that the man have some bones ground up, and give the cow a mess every morning to save her time and trouble. A

foolish fellow at our elbow says he don't doubt it, but he *would* like to know whether *that bone* came out of fresh meat or *salt*.

Our contemporary is right, and the man's cow has got a-head of him in Chemistry. People call it instinct, but we think the poor animals know a good many more things than we give them credit for. We have heard a long time ago of learned pigs and knowing dogs, and who shall say that *improved* cows can't comprehend the *chemistry made easy* of the present day. In old times, cows didn't chew bones. Ever since the day that

"Old mother Hubbard, went to her cupboard
To get the poor dog a bone"

the dogs have had the monopoly. It is much to be regretted that the philosophical treatise of "Mother Hubbard and her dog" does not inform us why that discreet lady should have set a precedent of giving the dog, which is not a milk giving animal, an amount of phosphates, so entirely out of proportion to his necessities. We are happy to say, that science is putting things to rights, and that hereafter the cows *must have* the bones, and the dogs may go to grass.

If instinct had any thing to do with it, cows of all ages would have sought their proper food, just as truly as the Boston cow now does.

Apropos to the above, is a paragraph going around, advising all persons who find their bones sufficiently hard for ordinary purposes to abstain from the use of milk. It is argued that after the bones attain to a certain degree of hardness, the continued supply of *phosphates* through the medium of the milk, will make them very hard and unelastic, and liable to *snap off*. And that this is the reason why old persons who have been using milk a long time, so often have their legs broken.

We respectfully suggest to our adult friends, who would not forego the luxury of a glass of milk, that they may avoid the dire consequences of an excess of the phosphates in their bones, by confining their cows to old pasture, that have not been manured with bone dust, and keeping all old bones out of their reach.

It would seem, however, that not our "mortal frame" only is the subject of these scientific applications. Hear what the London Punch says: "We believe that Mr. D'Israeli attributes much of the success of his eloquence to the fact that he is a great devourer of *cucumbers*. His Caucasian stomach is true to its traditions. "Cucumbers agrees with him!" Physiologists who delight to discover the source of outward actions, in the nutriment taken into the inward stomach, would we doubt not prove that Mr. D'Israeli when he spoke his boldest, spoke biggest cucumbers. What too, are those sharp and acid points? Are they not words of exquisite keenness? By no means—they are no other than gherkins pickled in the very finest vinegar. 'Cucumbers agrees with him.'" It is remarkable to see how our native sagacity runs ahead of science in these matters. Old Cassius according to Shakspeare said: "upon what *meats* hath this our Cæsar fed, that he hath grown so great?" Showing that altho' he saw the matter darkly, attributing Cæsar's greatness to his *meats*, yet he saw like Mr. D'Israeli, that applications to the stomach influenced the mind after the manner of special manures. Had he lived in this day he would have said

"Upon what *vegetables* hath this our Cæsar fed
That he hath grown so great?"

MR. RUFFIN'S LIME THEORY.

Our readers will not need to have their attention called to the "Remarks" of the distinguished author of the "Essay on Calcareous Manures," which it gives us pleasure to copy, at his request, from the "Southern Planter," and the article following, communicated for our paper. It will be seen that Dr. Pendleton's communication is confined entirely to the paper of T. G. C., published in our March No., and makes no allusion to Mr. Ruffin's "Remarks" in the "Planter," which we presume, of course, he had not seen. We propose, therefore, as briefly as possible, to put the matter in its true position, according to our view of it. Before entering upon the subject, however, we wish to place ourself, as the lawyers say, *Rectus in Curia*.

Mr. Ruffin in one place couples us with Dr. Pendleton as "his friend." We presume he used the expression only as indicating the coincidence of opinion of Dr. Pendleton and the writer on this subject. Beyond this it has no meaning. He has no personal acquaintance with Dr. P.—is not aware that he has ever seen him—and is his friend in no sense in which he is not equally the friend of Mr. Ruffin. Again, he speaks of Dr. P. and the writer as "my censors." This we equally object to. The writer is not Mr. Ruffin's "censor;" he only presumes to question his opinions. We make these remarks because we utterly disclaim any idea of partizanship, or any feeling other than the desire to bring out the truth on a question of much importance.

Mr. Ruffin's proposition, as stated by himself, is this:—That "*marling or liming in proper manner and quantity will entirely destroy the growth of sorrel, and prevent its return.*" In support of this proposition he adduces a number of facts, and in his Supplement an array of testimony which looks formidable enough. The facts show that, within Mr. Ruffin's observation, the results he claims took place, perhaps, universally; and the testimony of some thirty gentlemen is given to the same purpose. They have used lime for periods varying from six to twenty-five years, and are "perfectly sure," from their experience, that it has, when properly and sufficiently applied, certainly destroyed 'sorrel.' Now, what does all this prove? We are not surprised that gentlemen impressed with a theory, and prompted by their impressions to use lime with a view to certain results, should, on seeing the expected results uniformly follow, conclude a necessary connection between the use of lime and these results. We respectfully submit, however, that, notwithstanding their conviction, and Mr. Ruffin's facts, his proposition is not sustained. The argument is neither more nor less than this:—A particular course of treatment produced a uniform effect *on one class of soils*, therefore it will produce the same effect on *all* soils.

Now, suppose we bring an equal amount of testimony, (as we should have no difficulty in doing,) that on certain soils in Maryland, which produce in their unimproved condition *pine* and *broom-straw*, and this very *sheep-sorrel*, as Mr. Ruffin describes it, the application of plaster with clover, and thorough cultivation of the soil, will produce these same results—viz: drive out these plants, or so subdue them that they shall be no impediment to the highest degree of improvement of those soils,—may we not with the same propriety argue that

plaster and clover, &c., would produce the same results under all circumstances? But the conclusion is not a legitimate one. Certain results follow a certain mode of treatment under some circumstances, therefore the same results will follow the same mode of treatment under all circumstances! The *non sequitur* is sufficiently apparent.

While we admit that the use of lime by Mr. Ruffin and his friends did produce the results he claims, we maintain that it produced those results not directly, by neutralizing the acid of the soil, but indirectly, by supplying the deficient element of the particular class of soils on which they operated That his theory of *acid soils* is erroneous, and the true one this: That *any application* (whether lime, or plaster of Paris, or guano) *which supplies the deficient elements of the particular class of soils to which it is made, induces a growth of better plants, and drives out or subdues the more worthless.* (A familiar example of this is the disappearance of what is called "poverty," or "hen grass," on the application of manures, and the coming in of white clover and green grass.) The facts within our knowledge are utterly inconsistent with his theory. Our theory equally accounts for his facts and our own. The experience of the thirty gentlemen being upon land *deficient in lime*, the lime supplied the deficiency, and combined with other elements already there, to furnish the proper food of a better class of plants, and the "sorrel" uniformly disappeared before them. The lands within our observation being not deficient in lime, but in other elements of nutrition, had these supplied by the action of guano or other manures. We are familiar with thousands of acres where *sheep sorrel* is a natural growth, and which have been brought to a very high condition of fertility—making from seven to ten barrels of corn, and from twenty to as much as forty bushels of wheat per acre on clover fallow, and exclusively by the use of clover and plaster. We do not assert of these lands that the "sorrel" is certainly and finally eradicated, but that it is no impediment to a very high degree of improvement. The selling value of these lands ranges from fifty to seventy dollars per acre. We remark, in passing, that when they become foul by growing clover a long time, and the clover fails and the "sorrel" makes its appearance, that the proper and certain remedy is active cultivation—growing corn or other hoed crops two or three years in succession, and thus exposing the soil to the action of the atmosphere.

Our readers will not fail to see the practical bearing of this discussion. All admit the necessity of lime to a fertile soil. According to Mr. Ruffin's theory, on all lands where "sheep sorrel" and other acid plants grow, its application is *a necessity*—it *must* be put there. These plants, indicating its absence, indicate at the same time the necessity of the application. The theory consigns to hopeless barrenness millions of acres away from tide-water, where these plants grow, and where lime cannot be had. Our theory does not discourage the use of lime where it may be needed,—it only demands other tests of its absence. Let every man make the trial for himself, and if he finds the soil improved to any extent by the application of guano, or bones, or clover and plaster, he may hope that, notwithstanding the "sorrel," lime is not to his land *a necessity*.

Dr. Reynolds, who presided at a late Legislative Agricultural Meeting. at Boston, is reported to have said:—"A mistaken idea went abroad last spring, that guano could be used without being mixed with other materials. It would thus make a *caustic paste* that destroys the rootlets with which it comes in contact." That guano should not be put in any considerable quantity in immediate contact with germinating seed is true; but the idea conveyed in this quotation, that guano should be mixed with other materials, because any ordinary application would form a "caustic paste," is just one of those absurdities which originate with men who are better at talking than working, and which bring agricultural papers into disrepute with practical men. No man who has ever really seen the mere dusting of the ground which an application of two to three hundred pounds of guano per acre makes, will have any fear, after mixing it with three or four or six inches of earth, of *burning his fingers* with a "*caustic paste.*" And it will no more destroy the rootlets than it will burn his fingers. There is no danger whatever to the germination in putting in a broadcast application of unmixed guano by the same operation which covers the seed.

THE LIME DISCUSSION.—The paper of Dr. Pendleton published in our Feb. No. and our remarks thereon, we are glad to find, have drawn attention to a subject of much interest. Mr. Ruffin, notwithstanding his previous determination to publish no more on the subject, finds it necessary to come to the rescue of his peculiar views. The able article of T. G. C. in our March No. has brought out Dr. P. again in reply, and the subject is noticed by other correspondents. Having received Mr. Ruffin's communication at a late day, and the "Southern Planter" containing his "Remarks" not having come to hand in its usual course, we have had time only to throw hurriedly together our views in reply. In the mean time, we are not without the testimony of a portion of the agricultural press to the correctness of our opinion on this subject.—One of the Boston journals it will be seen, endorses it, and the editor of the "Country Gentleman" published at Albany says, he has long questioned the corectness of the contrary theory.

In behalf of our readers, we respectfully ask our friends to bring their views within as short a compass, as justice to themselves will allow; we would not have too much even of a good thing.

☞OUR ADVERTISING SHEET.—The opening of spring, induces farmers and all who are connected with them, in the way of supplies, to be up and a-doing. The pressure upon us this month, has rendered it necessary to double the size of our Advertising Sheet, and still the demand upon our pages of the main sheet is not decreased, to meet the requirement of advertisers. We hold it as a self evident fact, that the subscription money to the "Farmer" is well laid out, if it were but for the advertisements alone. Baltimore is the grand head quarters for every thing connected with agriculture and its kindred pursuits, and to our pages the farmer and planter can turn with confidence to obtain the necessary information in regard to their affairs.—We would desire to make special reference to sundry advertisements published in this number, but have been prevented by a pressure upon our time and limits—and we can only recommend to every one who receives the April No. carefully to go over its pages, and our word for it, they will find something of interest to them.

For the American Farmer

AN EXPLANATION, &c.

Messrs. Editors:—The Essay on the "*Action of Lime,*" over my signature, which I find you did me the honor to republish in the February No. of the "*American Farmer,*" was not written in a controversial spirit, but solely for the sake of eliciting truth, and in justice to a very large section of "*Middle Virginia,*" which Mr. Ruffin had rather coolly, I thought, consigned to hopeless poverty. I was, indeed, reluctant to controvert his peculiar theory, and, following the advice of an experienced friend, thus publish over my own proper name, views which I suspected would be regarded by many a marl enthusiast as rank heresy, and perhaps stir up a hornet's nest about my ears in the marl region. But little did I dream I should so soon be arraigned, before the public bar, by such a thoughtful man of science as your able correspondent, T. G. C. of Bladensburg. Your correspondent thinks he has detected, in that article, sundry and divers egregious Chemical blunders, which, if established by him, would render my situation before the public rather more conspicuous than comfortable. But, after all, it is gratifying to know there is much of consolation as well as truth in the old adage—"*Humanum est errare,*"—and I take courage in the full confidence that if, with your kind permission, and the courtesy of your many intelligent readers, I shall fail to answer all T. G. C's. objections fully, fairly, and to the entire satisfaction of all the parties concerned, I have only to beg pardon, for thus, unintentionally, misleading any one. But before proceeding to notice these objections in due order, permit me, by way of explanation, to remark, that had Mr. Ruffin been content like many a mere theorist before him, to publish a pretty theory altogether hypothetical, and unpractical in its bearing, no one would have excepted to it; but, every body who is familiar with Mr. R's. writings, know they are eminently practical, and hence, in his voluminous "Essays on Calcareous Manures," he has brought himself to the *monstrous* conclusion, that *no soil growing sheep sorrel, old field-pine, broom grass, etc., "can be durably or profitably improved by putrescent manure without previously making it calcareous."* This is the *gist* of his theory, and while I agree with your correspondent, that "the good effects resulting from his advice to use marl, (in the marl region,) do not depend on the truthfulness of his theory," and am free to confess, that no man living, or dead, has done so much for improvement in "*Tide Water Va.,*" as Mr. R. yet it is *equally true, and I hope the reader will constantly bear it in mind, that the injurious effects resulting from his theory, if false, in a large section of "Middle Virginia," where no calcareous manures can be had, would, if confided in, be hurtful in the extreme.* But fortunately for improvement, there are few farmers, I think, in all that extensive, but destitute Region, lying between "Tide Water" and the Blue Ridge, who are at all disposed to admit, either his premises, reasoning or conclusions, and there is good reason to hope, I trust, that the good work of renovating many a waste old field, will yet go on, with an energy and zeal worthy of the cause.

But let us now examine the chemical errors pointed out by T. G. C. He quotes me as saying—"Again he (Mr. R.) examines a soil and finds in it no "*Carbonate of Lime,*" he therefore infers, from the entire absence of the salt, though there may be an abundance of the alkali—lime, which is a better antacid than the Carbonate of Lime, that the acid is in excess in the soil, and it needs Carbonate of Lime to neutralize it;"—and from this quotation as a *text*, your correspondent proceeds to say—"Now, according to my views, alkali (lime) caustic lime cannot exist when exposed to the air, for place it in contact with the atmosphere, it immediately combines with carbonic acid, and becomes carbonate of lime, or, according to the constituents of the soil, forms sulphate, oxalate, phosphate, &c., of lime, and I must for the reasons given, deny that lime can be found in any soil, as an alkali or uncombined." But unfortunately, these views and statements of T. G. C. are not chemically, quite correct. I admit that carbonic acid has a strong affinity for the earthy *base*, (lime,) but the process of *carbonating* the lime, does not after all, proceed quite so fast as he supposes. If you slack a barrel of quick lime with water, (by which process the only material change undergone in the mass is its conversion into a "*Hydrate of Lime,*" by the addition of about 25 per cent. water, leaving it still nothing more nor less than *Caustic Lime*)—the carbonic acid of the air does, I admit, immediately begin to unite with the lime, and forms some carbonate of lime; but this process, though rapid at first, soon becomes a very slow one, and it is doubted by reliable chemists whether the entire heap would become completely carbonated in a great many years. Careful analyses of lime from certain ancient walls, built before the Christian era, show that the lime was, after a lapse of *two thousand* years, but partially combined with carbonic acid. So, of course, when the lime is put to much depth in the soil, carbonic acid would not, after all, combine with it so very "*immediately*" as your correspondent supposes. But I never stated *that lime in an uncombined state ever existed in any soil naturally.* So far from saying it, I never even thought of saying so. Lime in the limestone, when very pure, is always in combination with carbonic acid nearly alone. It is also found in many limestones, and in granites, in combination with *silica*, which latter has the character of an acid, and forms with the lime *Silicate of Lime.* Now, in order to overcome and break up this chemical combination, the carbonate or silicate of lime, as the case may be, must be attacked by some stronger acid than the one or the other. Accordingly, if sulphuric acid be brought into contact with carbonate of lime, its carbonic acid is set free. Not so, however, with the lime;—it is taken possession of by the sulphuric acid, and *Gypsum* is formed. But the idea I advanced was simply this,—if Mr. Ruffin, or any one else, *undertakes to estimate the quantity of antacids* in a soil, and only *deigns to look for the carbonates, he will often be wofully deceived.* Let us illustrate. Suppose a farmer takes from the kiln one hundred bushels of fresh burnt lime, for an acre of land, (many a good and *high* farmer would use twice or thrice that quantity.) He slacks it or not, as he pleases, which is immaterial. He has his acre of land analyzed, and finds in it but the *merest* traces of any acids. He applies the lime the same day he gets it—ploughs it under, and the next day looks only for the carbonate of lime. He would, of course, find little or none, for it has not had time to form and accumulate in the soil; and yet if he pronounced all these four or five tons of caustic lime—which is indeed, as I said, "a better antacid than the carbonate of lime"—not sufficient

to neutralize all the carbonic, sulphuric, phosphoric, oxalic, humic, and other acids, present in most soils, he would be hard, indeed, to satisfy.

But I come to another objection. I am not understood, it seems, by your correspondent in the use of the phrase, "*soluble lime.*" I said in my essay, that "the writer had never examined any soil that did not contain some '*soluble lime.*'" This phrase, I acknowledge, is not in accordance with a strict chemical nomenclature. It is like the word *soda*, by which is always meant, in common parlance, a salt of soda. Still, I have the best authority for using it as I did. Chemists mean by "soluble lime," any salt of lime which boiling water may dissolve and hold in solution; and its presence in a soil may be easily detected by boiling a portion of it in a glass flask, and passing the solution through filtering-paper till it is perfectly clear, and then precipitating the lime by *oxalate of ammonia*, when the "soluble lime," if any, will impart to the solution a milky hue.

I do not know any soils above "tide-water," in Virginia, so "*remarkably free from lime*" as T. G. C. has found them. It was present in every soil I have examined, either in one form or another, in notable quantity. Indeed, there are many soils, above "*our tide-water*," not resting on any calcareous rock, nor even *limed*, which are very abundant in *lime*. It would seem strange that those rich soils T. G. C. speaks of, as resting on limestone, should give no trace of carbonate of lime, if indeed limestone be the parent rock. But a soil may have no geological relation to the rock on which it lies, and so give very different constituents from the subjacent rock.

I fully agree with your able correspondent, that "there are resources in nature and vitality which cannot be measured by the re-agents or the most delicate balances of the chemist." There are, indeed, as Hamlet sententiously remarked, "more things in heaven and earth than he ever dreamed of in his philosophy." For while it is his privilege and province devoutly to admire Nature's exquisite handiwork, as displayed in the physical and chemical constitution of the soil—to study and determine her unerring laws—to watch and note the process of germination in the sown grain in all its stages—to marvel at the beautiful metamorphoses, the starch of the grain is made to undergo for the early nurture of the tender germ, and presently to see it spring up from its earthy tenement, a living, growing plant—to examine its simple, but complete organism, perfect in all its parts—its respiration, circulation, digestion and nutrition, and the multifarious changes daily taking place in its structure and composition, and all the laws which regulate them,—all his investigations are, at best, but finite and unsatisfying. He may by his skill transform wood into grape sugar, and separate and weigh its three ultimate elements—carbon, oxygen, and hydrogen,—but he cannot, with all his chemistry, again re-combine them. He cannot, with all his chemistry, physiology, or philosophy, determine the quality of that subtle principle, the *life-force*, which pervades every living plant, and arrays the humblest flower of the field with a grace and beauty no art can imitate. Nor can he tell why, nor how, one plant will form and deposit in its cells an acid, another a sweet, and another a bitter principle, any more than the physiologist can account for the bile in his liver or the acids in his stomach.

There is yet another position assumed by T. G. C. in that part of his article appropriated to controverting certain statements made by the late Prof. Norton, which I wish briefly to notice. Prof. Norton remarks, that "plants can easliy obtain an abundance of carbon, oxygen, and hydrogen from the air, the soil, and manures. Not so with nitrogen. They cannot get it from the air. There is little of it in most soils, and hence manures, which contain much of it, produce such a marked effect. Not that it is more necessary than the other organic bodies, but more scarce—at least in the form available for plants." Your correspondent denies this statement about nitrogen, and seems to take it for granted that, because there is an abundance of nitrogen in the atmosphere, and it "bathes the leaves and penetrates the soil," it must be plentifully absorbed by the leaves and roots of all plants. But this is not a conclusion to which some of the most eminent chemists have arrived, as the result of the most delicate experiments. Boussingault admits that plants *may* absorb by their leaves a little nitrogen; but Liebig denies they *ever* do. And if in its elementary state it is unfitted for the nourishment of plants, it does not follow that they must absorb it whether or not, simply because it "bathes their leaves and penetrates the soil." Nor has there been found of ammonia such ample quantities in the air and in rains as he supposes. According to the best chemists, it is found in neither constantly, nor in large quantities in either; and while T. G. C. hastens to condemn Liebig's ammoniacal theory, judging from the tenor of his remarks, he is in danger, I fear, of falling into a worse error—that of espousing Liebig's "Mineral Theory," which, it is known, so signally failed under the test of his own experiment, as greatly to injure his fame as a Theorist.

Your correspondent seems to have but little faith in ammonia at all. "I *cannot forget* (says he) *that ammonia is a caustic alkali destructive of animal vitality, and if necessary, can only be so in Homœopathic doses.*" Now, this does appear to me a most singular doctrine. There is, according to Prof. Way, in 300 lbs. of best Peruvian guano, only about 55 lbs. of ammonia, most of which is not in the *caustic state*. But admit, for argument, it is all caustic ammonia, what is this but a Homœopathic dose of caustic alkali, indeed, in comparison with 5 tons of caustic lime per acre? Ammonia, in its gaseous form, if inspired by animals, "is *destructive of animal vitality*;" but it does not follow it is equally destructive of *vegetable vitality*, for we all know there is no gas so deadly poisonous to all animals as carbonic acid, yet it is to plants their chief and daily food.

There is not much danger to be apprehended, I opine, from guano, or any other ammoniacal fertilizer, provided the farmer takes care to keep his soil in proper balance, by thorough ploughing and tillage—by liberal grassing, and green manures—and by *moderate* grazing *at the proper time*—with an occasional application of the necessary *inorganics*. I *cannot forget* that ammonia, or some other kindred nitrogenous compound, is the only muscle-forming principle in nature, and that it is as indispensable, in large quantities, for man's existence, as the air he breathes; and for the discovery and introduction of guano into many destitute sections, at a time when all idea of improvement seemed a forlorn hope, we ought to be profoundly grateful to the great Author of the Universe, who, having decreed that the toiling husbandman shall all his days "eat bread in the sweat of his brow," yet has mercifully provided

for him the amplest means, not only for acquiring a bountiful subsistence, but for the rational gratification of every reasonable aspiration and desire of his heart.

LOUISA Co., VA., P. B. PENDLETON.
March 14th, 1855.

NOTE.—Since the above was written, and before going to press, it is proper to state that the writer inadvertently failed to notice that Mr. Ruffin had stated in his "Essay on Calcareous Manures,"—*"He did not intend his facts and conclusions should be made to apply to other than the tide-water section of Virginia."*

REMARKS

On the disputed question, whether the Growth of Sorrel is Prevented by the Soil being made Calcareous—and on the facts adduced as opposing evidence.

Some months past, there appeared in the Southern Planter a communication from Dr. P. B. Pendleton, of Louisa county, in which was opposed and condemned my doctrine of *acid soils*, and also questioned my position that the making of acid soils (or those so termed) calcareous, will prevent the growth of field or sheep-sorrel. This article has been republished in the last American Farmer, (February, 1855,) accompanied by another by the editor of that periodical, uniting in the strictures, and presenting other and more remarkable testimony to sustain his designed refutation of my positions, assumed in the Essay on Calcareous Manures. Deeming that I have already pressed upon the public notice these views of mine at as much length as the circumstances required, or would excuse, I had at first determined to make no reply to these strictures. And it is with reluctance now that I shall even partially depart from my first designed inaction. It is only as to my *facts* which are disputed that I propose to answer; and even this would be unnecessary if the actual results in question were fully known to the readers of the strictures. As to the theory of acid soils, or any merely theoretical opinions of mine, I shall say nothing more in their defence. They will be left to stand or to fall by what I have before set forth. If all that has been already adduced in their support is insufficient, I will not weary the public by repetition, or by attempting to furnish other and more convincing proof.

But while thus declining to argue in defence of any theoretical opinions, it is proper to remind my opponents, and their readers, that these views were formed on observations made entirely in the tide-water region; and so fearful was I of extending my doctrines farther than the observed facts authorized, that my assumed positions were limited in expressed and guarded terms, to the tide-water region of Virginia. The preface to the earliest separate publication of the essay in question, commenced with the following saving clause, and which has been republished in every succeeding edition:

"The object of this Essay is to investigate the peculiar features and qualities of the soils of *our tide-water district*, to show the cause of their general unproductiveness, and to point out means as yet but little used, for their effectual and profitable improvement. My observations are particularly addressed to the cultivators of *that part of Virginia which lies between the sea coast and the falls of the rivers*, and are generally intended to be applied only within those limits. By thus confining the application of the opinions which will be maintained, it is not intended to deny the propriety of their being farther extended. On the contrary, I do not doubt but that they may correctly apply to all similar soils, under similar circumstances; for the operations of Nature are directed by uniform laws, and like causes must every where produce like effects. But as I shall rely for proofs on such facts as are either sufficiently well known already, or may easily be tested by any inquirer, I do not choose to extend my ground so far, as to be opposed by the assertion of *other facts, the truth of which can neither be established nor overthrown by any available or sufficient testimony.*"

These sentences certainly and strictly should confine any controversy on my propositions to facts and proofs furnished within my own prescribed limits. My reasoning should be met by opposing facts within these limits, and not drawn from "Middle Virginia," in which Dr. Pendleton maintains that such opposing facts, of vegetable growth, &c. are presented. But while I claim to have thus limited my assumed ground, in regard to known facts, and strict reasoning therefrom, it is readily admitted that I had also inferred (and still infer,) that the same doctrines will apply elswhere, under like conditions of soil, &c.; and that like facts will appear as the effects of the like causes, in any other locality. The difficulty is to know when the conditions or causes are alike, or the same—and whether the assumed facts and premises are correctly and fully known, or otherwise have been incorrectly observed, and are, therefore, mistaken in their operation; and their report, as evidence, of no value whatever. It is entirely proper and legitimate that inquirers, or doubters of my propositions, should apply my proposed tests of soils in other regions—and if finding different results, to declare that my doctrines were not sustained by the facts in that locality. But it is not legitimate reasoning, to apply views designed especially for and limited to one region, to another very different in important characteristics. If my alleged facts are false, or questionable, they should be assailed, and their weakness exposed. But it should be by conflicting facts and testimony furnished in the same region. Of facts and testimony on the subject, there is no scarcity, among the hundreds of experienced marling farmers in lower Virginia. Among all these, I doubt whether one can be found who will not fully confirm the particular position which the supposed facts of Dr. Pendleton and the editor are brought to disprove—which is, that sufficient marling (and, by necessary inference, also liming,) will speedily destroy the growth of sorrel, and also render the land incapable of producing that plant. And if it be required to know what I mean by "sufficient" marling or liming to produce this preventive effect, I answer, that it is not any certain quantity, but just so much as will leave everywhere in the soil after thorough intermixture by tillage, the smallest excess of remaining and free carbonate of lime. If *correct* analyses of soil, after marling or liming and sufficient tillage processes for thorough intermixture, will truly exhibit a general remaining ingredient of carbonate of lime of but one-fourth of one-hundredth part of the tilled soil, that soil, (as I believe) will be sufficiently calcareous to prevent the growth of field or sheep-sorrel.

It is true that there may exist in print little or

no direct testimony, other than my own, maintaining this opinion in the general; and it is so, precisely because there are no persons in the marling region to question the fact asserted, or to require its further proof by additional evidence. If some one were to assert that manuring was injurious to the growth of tobacco, it may be doubted whether Dr. Pendleton could prove the contrary by adducing existing testimony to maintain this fact of universal admission, and which as no one of any experience or knowledge on the subject had ever questioned its truth, so no one had deemed it necessary directly to affirm it. However, Mr. Willoughby Newton, in his review of the Essay on Calcareous Manures, (published in the Southern Planter,) though not deeming it required to affirm directly my opinion in regard to lime destroying sorrel, does so incidentally and fully to the purpose; and would seem to rely, for the producing of this effect, on much smaller quantities of lime than I have usually applied in the form of marl. I could not refer to any witness on the subject whose opinions, founded on practice and experience, are entitled to or will command more respect, than this distinguished and successful liming farmer.

I have additional reason to protest against my views being tested by such facts (of the growth of sorrel) as are adduced by both my censors, because of my personal experience of how imperfectly and incorrectly similar facts have been observed, and, therefore, incorrectly reported, and applied to this question. Long ago, when the doctrine of lime preventing the growth of sorrel was novel, and what was doubted by many, I have heard of many particular and limited facts of the growth on *apparently* well limed, or calcareous soil—and also have seen and investigated some of the most remarkable of such facts, and apparent contradictions of the doctrine referred to. But every such fact of apparent exception that has come under my personal observation was susceptible of explanation, so as to show abundant reason why the supposed contradiction, though apparent, was not real. In Prince George county, where many such supposed contradictory facts have been noticed, and served at first to strengthen doubts, probably not a single marling farmer, at this time, could be found to question the truth of the rule that sorrel is certainly destroyed by sufficient marling. When, after marling or liming, sorrel still grows generally over the land, the fact merely indicates that there had not been applied enough lime to combine with the acid, and then to leave the least surplus of free lime, or carbonate of lime. If on land certainly well or sufficiently marled or limed, on the general average, sorrel still grows, and ever so luxuriantly, on particular spaces, it is owing to irregular spreading of the manure, or want of its thorough intermixture with the soil by subsequent tillage. A field generally may be too heavily and injuriously marled or limed, and yet any small spaces, left unsupplied by irregular distribution, would produce sorrel as freely as before. Further, I and many others have seen, and at first with astonishment, sorrel growing vigorously on heaps of highly calcareous marl, which had been dropped, and remained for some months before being spread, on sorrel-producing land.* No stronger opposing cases in appearance could be presented. Yet these strongest apparent contradictions, when carefully scrutinized, so far from disproving the existence, afforded additional confirmation of the antagonistic qualities of marl and sorrel. I found, on examination, that plants so growing, sprang out of the natural soil below. The covering of ground with a heap of marl, six or more inches thick, did not intermix with or affect the constitution of the covered soil—and could not, until the marl was scattered, and not effectually until after tillage. The hardy plants, springing in the still favorable (i. e. acid) soil below, pushed upward through the marl, as through a mere inert and mechanically opposing mass of matter, without leaving in the marl a single *living* lateral rootlet, or deriving from it the least supply, whether nutritive or poisonous. But however numerous have been these and other apparent exceptions and contradictions to the rule, there is no agricultural fact or rule better established in the now widely extended marling region of Virginia, than that sorrel always disappears, speedily and entirely, from properly marled lands. Lime, different from marl, is applied in light dressing, and never enough at the first time of application, and therefore, will rarely at first make an acid soil calcareous, even to the least excess of remaining free lime. Therefore, sorrel would not be always removed by one application. But I maintain, and no one will deny, that lime, when serving to make soil equally calcareous, must have the same effect on sorrel as marling.

It is not for me to judge of the opposing facts stated by Dr. Pendleton and the editor of the American Farmer, as reported from their own observations—and still further removed, and less capable of being tested, are those reported to them by other and anonymous witnesses. But, if properly scrutinized by the actual observers, I am confident that all these reported cases of contradiction would have been found to be of as little value for evidence, as were all of the many other cases referred to above, as within my own reach of observation or scrutiny.

But besides the many such alleged and mistaken facts, and *things* correctly named but misunderstood, which serve to confuse inquiry and mislead deductions, there are other prevalent errors in *names* which cause even true and correctly observed facts to mislead and deceive. The common sorrel, *rumex acetosella*, so far referred to, is called *sheep-sorrel* in lower Virginia. Another kind (which however, is *not* of the "same family," as Dr. P. supposes,) *oxalis acetocella*, is there called horse-sorrel. The former has leaves shaped like narrow and barbed arrow points—and its growth indicates land destitute of carbonate of lime, and deficient in lime of any kind. The horse sorrel is a trefoil and pod-bearing plant, and its general growth indicates a good soil, naturally rich, or otherwise highly calcareous. Yet in many cases, these two very different plants, are confounded by their common name, and facts in regard to one are applied most erroneously to the other. Still worse—I have recently learned that in some parts of upper Virginia, these two vulgar names are reversed. This confounding, and still more the exchange, of these names would alone be enough to throw the discussion of the subject into utter confusion in regard to facts asserted by witnesses applying the names differently.

Again: Pines readily and certainly form the en-

*Two different communications, from correspondents, of such facts, were published in different parts of the Farmers' Register, accompanied by the investigation of similar facts, and explanation of the apparent contradictions, by the present writer.

tire second growth of nearly all the exhausted fields, turned out of tillage, in the tide-water region; and also on much of the like lands of the next adjacent higher region. These trees are in both regions termed "old-field" pines. Yet it is a remarkable fact, which however obvious and plain, is not known or observed by many persons, that the "old-field" pine, which makes the almost universal second growth of the exhausted lands of the tide-water region and a little higher, is a different species from the pines as generally covering old fields still higher up the country—as, for example, in Cumberland county, where my attention was first drawn to this difference. The second-growth pines there, all are of the same species of the first forest growth of both that and the tide-water region—i. e. the "woods" or "pitch" or "yellow" or "short leaf" (*pinus variabilis?*) The "old-field" pine of the tide-water (*pinus tæda?*) has longer leaves, larger cones, and is almost wholly of sap-wood. Further, on our yellowish clay soils, originally of more fertility than the ordinary and more sandy soils on the tide-water, the second growth is as generally of pine, but of still a different kind—the "spruce," "river" or "cedar" pine, (*pinus inops ?*) having the shortest leaves and smallest cones of all here named.

Now, as the seeds of all these kinds must be carried far by the winds, and plentifully diffused every where, the almost entire possession of some lands by either kind, and exclusion of the other kinds, in the same climate and like exposures, must indicate different chemical constitution of the soil, or very different conditions as to production. My observations of soils, &c. were made, and views as to their improvement were deduced, in the region where our "old-field" pine (*P. tæda*) was the almost exclusive second growth. I deduced the opinion (which remains unaltered,) that wherever the "old-field" pine thus grew, generally and vigorously, that lime was certainly and greatly deficient in the soil, and that its application would certainly cause speedy and great improvement and increase of fertility. I went farther, and still maintain, that nothing else, without lime, would there effect profitable and enduring fertility. Still farther, I maintained that on such soils, without liming or marling, clover could not be grown successfully, and that gypsum would have no effect. But I freely confess that I erred in too much generalizing my indications and rules, and erroneously inferred the same to be strictly true as to the pine-bearing lands in general. I did not then know that the "old-field" pines so plenty on the red lands of some of the counties of mid-land Virginia were of a different species—that those lands refused to bear *our* "old-field" pine—and also I have since learned that clover succeeds there, and gypsum generally operates well, and that lime has rarely been found beneficial, on these higher pine-bearing, as well as other lands of that region. Such were my mistakes, caused by too limited observation, and too hastily reasoning from particular facts to general laws. There is much yet to be learned from observation on these and connected subjects, and on which, correct observation would learn, as furnished by the trees and other plants growing most freely, indications of the peculiar chemical conditions and wants of different soils. It would be very interesting to have observed and made known any such facts—and especially the irregular line of division (which is not identical with, but somewhere above, the line of the falls of the rivers,) between the regions of the two different "old-field" pine-second growth—and whether this line is, or is not, identical with that which separates the lower lands improvable by lime and not by gypsum, from the upper lands, improvable by gypsum (in many cases,) and rarely, as it is reported, by lime. I invite Dr. Pendleton and every other competent agriculturist, residing near those lines of separation, to observe and report upon these facts.* I am attempting to pursue this investigation, and will be glad to add my contributions to those asked for from other observers.

Until recently, I had known almost nothing of the facts just referred to, of the region above the falls; and my personal observations have been very limited even since their being so directed. Scarcely any satisfactory information is to be derived from foregone observations, by inquiries, because scarcely any one has noticed these differences with care or correctness. But even from my previous very slight and general means for information, and with scarcely any aid from personal inspection, I had reached the conclusion that there existed important and general differences in the chemical constitution of the soils below and those far above the falls of the rivers, in regard to the proportions of lime, contained naturally—and, inversely, their degrees of want of applications of lime—and also of the relative capacities of the lands of these different regions to be enriched by aid of gypsum, and by putrescent manures, without previous liming. These views were stated generally and concisely, but distinctly in the last (5th) edition, pages, 160, 161 of the Essay on Calcareous Manures.

EDMUND RUFFIN.

Marlbourne, Feb. 7, 1855.

For the American Farmer.

POSTSCRIPT TO REMARKS ON THE EFFECT OF LIME ON SORREL.

After my answer to the published denials (by Dr. Pendleton and the editor of the American Farmer,) of the growth of sorrel being destroyed by lime, had been sent to the press, I made a visit to Prince George county, and attended the monthly court, on March 8th. I made use of the accidental opportunity to invite the farmers then present to state their testimony on the question, whether for or against my views. A paper with both the two following headings, of opposite purport, was submitted; and after full notice and explanation, it received the signature, (as was believed,) of every experienced marling or liming farmer then on the ground.

Among the signers who support my position, several reported strong cases of apparent exceptions to the general rule affirmed. Of these, one farmer (like Dr. Pendleton and his friend,) had

*To aid new observers of the desired facts, of the presence or absence of different kinds of pines, I will offer the most certain marks of distinction of the species common in either lower or middle Virginia. The "old-field" pine of the lower country, (*P. tæda?*) has leaves growing three together in each sheath. The "yellow," "pitch" or "woods" pine, (*P. variabilis?*) and the "river" or "spruce" pine, (*P. inops?*) have their leaves growing two in a sheath. These last two differ so much in general appearance, that no observer can mistake one for the other. The only other pines in lower Virginia, are the "slash" pine and the "long-leaf" or Southern pine. The last is seen only on part of the southern margin of Virginia—and the preceding grows only in ponds or wet and poor forest land. The long-leaf pine (*P. palustris* or *australis*) has leaves three in a sheath, and also, I believe, the (*P. seretina?*)

seen the quantity of sorrel *increased* for the first year after liming; but having given longer time to observation, he found the growth to disappear the next year, and thereafter. Another, on his land from which previous marling had removed the sorrel, had known that plant to appear again, partially, after a later dressing of a peculiar gypseous and sulphureous and also fertilizing clay. Another had known the growth of sorrel, which had disappeared generally from a field after marling, to return *in great abundance* on, and precisely limited to, a small space thickly covered with rotting pine leaves, as manure. Others stated, (and perhaps every one might state,) that after light and irregular marling or liming, and the consequent general disappearance of sorrel, that some spots still continued to produce that growth. In a few other cases, of the oldest and only marlings, and where the dressing had not been heavy, and also where the organic matter and the fertility of the soil have much increased since, that sorrel, after long disappearance, had again returned in a few scattered plants. This partial return, even after the oldest known single marlings, (of 36 years,) has not yet occurred where the dressing had been heavy. (This late return of sorrel on marled land, was anticipated and predicted, and the reasons therefor stated, many years before the occurrence of any such fact had been known. See page 219 of 5th edition, and the same passage in all the older editions of the "Essay on Calcareous Manures.) Yet all of these apparent or temporary exceptions, did not, to the several witnesses and reporters, invalidate or weaken the general rule, or oppose the written testimony which they have here offered. This testimony, I trust, will be deemed more than enough to maintain, and that without exception, my position which has been assailed and denied, viz: that *marling or liming, in proper manner and quantity, will entirely destroy the growth of sorrel, and prevent its return.*

EDMUND RUFFIN.

Prince George Co. VA. MARCH 9th, 1855.

[COPY.]

[*First Heading.*]—"The undersigned, by personal experience and observation, as well as from general report, are perfectly sure that marling, or liming, sufficient and proper for the most profitable manuring of the land, has, on our respective lands, and others, destroyed the former growth of sheep-sorrel, and prevented its subsequent growth."

NAMES OF FARMERS.		Years since beginning personal use of marl or lime.	Age of earlier marling (not since repeated,) by predecessor on same farm
		YEARS	YEARS
William Gee,	marl	12	
Nat. M. Osborne,	lime	10	
Edmund Ruffin, Jr.,	marl	16	36
Alfred Butts,	"	20	
Alex. C. Harrison,	"	14	18
William E. Proctor,	"	10	
Robert Harrison,	"	20	
Edward A. Marks,	"	26	34
David Tatum,	"	20	
William Bryant,	"	10	
Peter Eppes,	"	10	
J. M. Jordan,	lime	10	
Williamson Simmons,	marl	15	
Nat. C. Cocke,	"	14	34
William Shands,	"	20	
J. C. Hobbs,	marl & lime	14	
Archibald Glover,	marl	9	
James B. Cocke,	"	20	28
Samuel T. Smith,	"	6	
Henry Hollingsworth,	"	15	
T. W. Simmons,	"	12	
John Avery,	"	20	
S. G. Wells,	"	15	
Thomas H. Daniel,	"	12	
Robert R. Collier,	"	16	
James S. Gee,	"	25	
Wm. L. Shackleford,	"	15	
George A. Wilkins,	"	9	
Peter C. Marks,	"	15	
John A. Peterson,	"	25	
Richard G. Dunn,	"	28	
Giles Johnson,	"	14	
W. H. Warthen,	"	5	

[Signatures—AYES, 34.]

[*Second Heading.*]—"The undersigned, marlers or limers of experience, believe that marl or lime, applied as manure in proper quantity, and well intermixed with the soil, does *not* destroy, and will *not* prevent, the growth of sheep-sorrel."

[Signatures—NOES, NONE.]

WORK IN THE GARDEN.

APRIL.

Much will depend upon your exertions this month, whether your garden be such as an agriculturist should be proud of—whether it be such as will afford you and your family those supplies of vegetables, which contribute so much to human comfort and is so promotive of health. Therefore, if you desire your garden to reflect credit upon its owner, and to be a shining light to your neighborhood, go to work at once with energy and intelligence, and make its appointments perfect in every department. With this brief introduction, permit us to point out a few of the many things which should be done promptly.

PLANTING OUT CABBAGE PLANTS.

If you have been so thoughtful as to have grown plants for early cabbages, go to work at once, prepare a bed by heavy manuring, digging and raking; then set out your plants in rows 3 feet apart, the plants 2 feet apart in the rows. But now suppose you were not so provident as to grow your own plants, what is the next best thing to be done? Why, buy some plants from some one who has them for sale, set them out for heading; for, of a certainty, your family should not be permitted to do without early cabbages, while their more provident neighbors all around them are enjoying them.

SOWING CABBAGE SEED.

Manure a plot on a border with a southern exposure, dig it up and rake fine, then sow cabbage seed of sorts, to succeed the earlier planted plants. Rake the seed in lightly, pat the ground with the back of your shovel, and dust the bed with a mixture of ashes and plaster, in the proportion of 3 parts of the former to 1 part of the latter. When the plants come up dust them with soot. If after the plants are up, they should be attacked by vermin, or as-

sume a sickly hue, give them three or four waterings with a tea made thus: Place half a bushel of horse-dung in a bag, with 2 ozs. of sulphur and 1 quart of soot, tie it up and put it in a tight barrel, pour in boiling water enough to cover the bag, when this is cool, fill up the barrel with cold water, and water your plants. The barrel may be filled up with water three or four times, and be of effective service. We have restored plants to vigorous health in this way, that were filled with vermin, and looked as sallow as if they had had a violent attack of the jaundice, and a dozen shakes of the ague.

SETTING OUT CAULIFLOWERS AND BROCCOLI PLANTS.

If you have plants of these, set them out for flowering.

Sowing Cauliflowers and Broccoli Seed.—Sow seeds of these.

SIBERIAN KALE.

Prepare a bed, say 20 feet square, and sow Siberian Kale Seed.

EARLY PEAS.

In the beginning of this month, plant a few rows of garden peas, and at intervals of ten days throughout the month, plant more rows, in order to insure a continuous suppply.

BEANS.

Plant a few rows of dwarf beans in the first week in this month, and plant a few rows more every ten days throughout the month.

LETTUCE.

If you have lettuce plants, set them out to head. This done sow seed at intervals of ten days for successive crops.

SMALL SALLADING OF ALL KINDS.

Sow seed of every description of small sallading, the first week in this month and every ten days thereafter throughout the month.

RADISHES.

Sow Radish seed at the beginning of the month, and at intervals of a week throughout the month.

SPINACH.

Prepare a bed and drill in a few rows of spinach seed.

CARROTS AND PARSNIPS.

Sow a few rows of the seed of these early this month, for your first crop.

CELERY.

If you have a hot bed, and sowed celery seed, as we advised you, in February, the plants will now be fit to be pricked out in a nursery-bed three inches apart, where they are to remain five weeks. Give the plants when pricked out a watering, and repeat it often.

Sowing Celery Seed.—About the middle of the month, prepare a plot on a border with a southern exposure and sow celery seed.

ASPARAGUS BEDS.

These, if not dressed before, must be dressed the first week in this month.

Sowing Asparagus Seed.—Now, if you have no asparagus beds in your garden, sow seed to grow plants to form one, for every garden should have its asparagus bed.

BEETS.

Drill in a few rows of Beets the first week in this month.

SALSAFY OR VEGETABLE OYSTER.

Drill in a few rows of the seeds of this excellent vegetable.

PARSLEY, THYME, SAGE, &c.

The seeds of all herbs of this description, should be sown early this month.

HORSE RADISH.

If you have no horse radish growing in your garden, prepare a bed and set one out. It flourishes most in a deep moderately moist soil.

SOWING RHUBARB OR PIE PLANT SEED.

Early this month, say within the first week, prepare a plot on a border, and sow a few seeds of this delicious pie plant.

POTATOES.

If you have not already planted your early potatoes, plant a bed in the first week of this month, and manage them as we directed in our farm work last month, in our "Work on the Farm."

NASTURTIUM.

Drill in Nasturtium seed for pickles.

RED PEPPERS.

Early this month prepare a bed on a warm border, and grow red pepper seed of sorts.

TOMATOES.

Manure a plot on a warm border, by liberally manuring, digging deep, and raking fine, and sow Tomatoes seed.

EGG PLANTS.

Prepare a plot on a warm border, and sow Egg Plant seed.

MELONS.

Towards the latter end of this month, you may prepare hills and plant melon seed. Top-dress the hills with a mixture of 7 parts ashes and 1 of plaster.

STRAWBERRY BEDS.

Keep these clean from weeds. In dry weather, see that they do not suffer for the want of water; but in watering them hold the rose well down to the ground, so as that no water touches the flowers. If you have not already placed straw or tan between the rows, do so forthwith: this will act in a triple way; it will keep the earth moist, keep down the weeds, and preserve the berries from being gritty.

If you would dissolve two pounds of Peruvian guano in a barrel of water, and give the bed a watering with it, good will result—this should be done the first week of this month.

GARDEN FRUIT TREES.

Treat these to a dressing of well rotted manure; then top-dress with a mixture of 6 parts ashes, 1 part salt, and 1 part plaster. In digging in the rotted manure, be careful not to injure the roots.

GOOSEBERRIES, CURRANTS, RASPBERRIES.

If these have not already been attended to, give them the same dressing recommended for fruit trees, prune the Gooseberry and Currant bushes, and prune and tie up the raspberries.

FLOWER SEEDS OF ALL KINDS.

May now be sown either on borders, in boxes or flower pots.

SHRUBBERY.

If your garden is already adorned with shrubbery, trim them, if they need it, and give them a dressing of manure. If you have no shrubbery, plant some of different sorts in the first week in this month, as no garden in the country should be without adornments.

GRAPE-VINES.

In the Middle States, Grape-vines may still be planted; so if you have none in your garden, plant some, as the members of no agriculturalist's family should be without so luscious and healthful a fruit.

☞The fine horse "REGISTER," which took the First Premium for blooded horses at our last Show, and was so much admired, it will be seen, is up for the season.

FLORAL DEPARTMENT.

Prepared for the American Farmer by Jno. Feast, Florist, Lexington street.

The time is now come for transplanting nearly all hardy plants, and such as have been kept in a cool place through the winter and protected. Such as Lagerstremias, Pomegranates, and others of equal hardiness plant out in the borders, or any convenient place most suitable for the summer. The planting of roses or any hardy shrubbery may yet be done; and make preparations by having the borders thoroughly done up, to receive the different plants and seeds to be put in. Plant out such things as are in pots for an early bloom, as soon as the weather is fine, but harden them previous to the time of removal, as they frequently suffer if too tender. Transplant and separate Herbaceous plants that need it.

Evergreens may safely be planted, and be careful in not planting too deep, as they seldom do so well as when raised a little. Many of the new varieties introduced require this treatment; with good drainage, which are essential to the growth of all plants in and out of doors. Attend to the pruning and training of vines and creepers, for covering walls or arbors, and tie up neatly the plants to the best effect.

Greenhouse plants will require plenty of air, and those that have done flowering may be replaced by others coming in bloom, and not crowd them too much. These and such as require heading down, may be attended to.

Pelargoniums now showing signs of blooming, must be attended to by frequently watering with liquid manure; give them plenty of air in fine weather, and keep clean from insects or decayed foliage. Be careful not to crowd the plants.

Azaleas and *Camelias* will be nearly done flowering—give a plentiful supply of water, and propagate by inarching or cutting such varieties as are needed to keep up the stock.

All tender bulbs that have done flowering, put to one side, and bring forward those as Achemanes, Gloxinias, and such as flower during summer. The object is to keep up a succession of bloom.

Dahlias may be planted about the end of the month, in the open ground. Give them a good soil, and have the stakes ready at the time of planting.

Flower seeds of all kinds sow in the open borders, and such as are potted for an early bloom, plant in the borders in proper time, if the weather is fine.

Hyacinths and *Tulips* attend to—keep clean and tie up such as need support. Plant out Tuberoses and Tigerlillies with others in the borders, for flowering in the fall. Plants that have been kept in cold frames, as Carnations, Pinks, Polyanthus, Auriculas, require plenty of air. Re-pot those that need, and tie up neatly those as they come in bloom, as they are likely to be broken.

To the Editors of the American Farmer.

Messrs. Scott & Mochbee are furnishing an admirable machine for crushing corn with the cob. Does it pay to do this? I have heard that the crushed *cob* is dangerous to mules especially, swelling in their stomachs, and often causing cholic, which kills them. Is such the case? I should like to hear the opinions of the Editor or others.

A SUBSCRIBER.

We have heard some such statement as the above, but have no reliable information on the subject. Will some of our subscribers let us hear of their experience in the use of this sort of food?

Extract from a letter of a Nelson Co. Farmer:—

All farmers should have, in my opinion, a microscropic instrument, with which he can examine insects, small seeds, &c., and he should also possess a a barometer to warn him of coming storms, if any such instrument can be relied on; and again, if his purse will justify the expenditure. Now, will you be so good as to inquire the price of these instruments, and publish it in your next No. along with the other information?*

To the above add the price of a sun dial plate.

Again; the chinch bug prevailed with us last season to an alarming extent, and can now be seen crawling from under rocks and bits of wood, when turned over by the plough, and one of my neighbors, whose intelligence and veracity is unquestionable, says he finds them, whilst stripping, *in the folds of the tobacco leaves.* If they appear next season to any greater extent than the last, we are a starved set certainly. Do you know whether they appear two seasons in succession ever? and what is the best means of keeping them out of a field, not already possessed by them? They have never appeared in this part of the State before last summer, at least the oldest farmers say so, and my experience of 14 years farming and planting corroborates it.

Before closing, for the benefit of my brother tillers of the soil, if it is already not a common fact known to them, I will say that for a year or so I have been using, and so have others in this county, a substitute for tar on wagon wheels, &c., an article greatly superior to tar in every respect. I mean the oil of coal, produced in the manufacture of gas to light your cities; and is used much by painters for roof painting. It never gums like tar, nor does it dissolve or melt in hot weather and run off. A gallon of it goes as far as two of tar, both winter and summer, and the article by the barrel of 30 or more gallons cost in Richmond about fifty cents.

*Magnifiers cost 37 cents to $2.50—Sun-dials, $1 to $6—Barometers, $10 to $30—Thermometers, 62c to $8.—*Editor.*

The Va. State Agricultural Society, we regret to learn, has fixed on the same week for its next Exhibition, which had previously been designated by the *Maryland State Agricultural Society.* This is an oversight by both Societies; our time of holding our Show was found at our last Exhibition to be too early, and by an amendment to the Constitution, was *permanently* fixed for the *last week* in October. This was done without reflection as to its interference with other Societies, which should have been taken into consideration; hence, the two Societies most likely to aid each other, by having the exhibitions in successive weeks, will be apt to work adversely. There is no blame to be attached to the Virginia Society, as we believe the time now fixed on, is the same as that which has been heretofore occupied by them.

NORTH CAROLINA.—In addition to many other evidences of agricultural improvement in this patriotic State, we are glad to hear from the "Carolina Cultivator" that the Legislature, at its late session, provided for an *annual appropriation* of $1,500, for the use of the N. C. Agricultural Society.

The "Carolina Cultivator" is a new publication which takes the place of the "Farmer's Journal," which has been discontinued. It has been recognized by the State Agricultural Society of N. C. as its organ, and we have no doubt will be properly encouraged and sustained by the public spirited community among whom it is published. We wish the "Cultivator" all good success.

[From a late English Journal furnished to the American Farmer.]

THE CHINESE POTATO.

(Dioscorea Batatas.)

Mr. John Henderson, of Kingskerwell, South Devon (late of Pineapple-place, London,) has published a pamphlet of very great, and indeed of universal, interest, describing the new and valuable Chinese esculent, and explaining the best mode of culture in this country. When the potato-disease excited so much fearful anxiety, a discovery (remarks Mr. Henderson) scarcely less than Providential was made. This was the introduction into France by M. de Montigny, the French Consul at Shanghai, in China, of a particular kind of Yam—now known as the *Dioscorea Batytas*, or Chinese Potato—which appeared to him to be admirably calculated to meet the exigency of the crisis. The French, however, did not arrive at foregone conclusions, but with that love for scientific investigation which so pre-eminently distinguishes them, determined to base their opinion of the plant upon the results of a series of experiments of every character. The several points to be determined were definitively settled, and the experiments carefully watched with reference to each particular. These naturally comprehend the quality of the plant, in point of flavour and nutritive properties, its productiveness, and the character of the soil upon which it might be grown with the greatest success. These experiments were made by the most skilful horticulturists, and the results are—

I. That in point of flavour and nutritive properties, it is equal to the potato, and, in the opinion of Professor Decaisne, superior.

II. That the quantity yielded is greater than that of the potato, whilst its freedom from disease renders the crop more certain.

III. That it will grow upon sandy, and generally considered barren soils, and thus affords an excellent means of turning waste land to a useful purpose, as well as to profit.

IV. That it can be propagated with the greatest facility (as will be seen by the remarks on cultivation.)

V. That it may remain in the ground several years without degenerating, but on the contrary, each year it increases in size, weight, and nutriment.

VI. That when harvested it may be preserved in cellars or sheds, without vegetating, for many months after the potato has become useless for food.

When these things are considered, it cannot be doubted but that this esculent must ere long come into general use, and obtain that consideration at the hands of all which its intrinsic merits so imperatively demand. Amongst those who are pre-eminent in the attention paid to this plant is the learned Professor Decaisne, whose report is full in itself, and conclusively important in its results.

CULTIVATION.—M. de Montigny informs us that "the Chinese put aside all the smallest roots at the taking up, and place them in pits or trenches, covering them well with straw, over which they afterwards spread a coating of earth. In the spring they are taken out and laid horizontally in beds of prepared mould, where they soon germinate and produce long trailing stems. As soon as they have attained about six feet in length (which is generally in a month or six weeks' time) they are taken up to be replanted and layered. The manner in which this part of the operation is performed is as follows. The ground having been prepared and thrown into ridges, either by means of the plough or spade, a slight furrow is made on the top of each ridge with a rake or hoe, and the plant laid in it lengthways, and the whole of it, except the leaves, is covered lightly with earth, care being taken that they (the leaves) are left exposed: if it rains the same day they take immediately; but should it be dry weather, it is necessary to water them till they begin to grow. At the end of fifteen or twenty days they will produce tubers, and at the same time throw out long trailing stems, which ought to be examined from time to time, to prevent their taking root, and so producing another set of tubers, which latter would injure the full growth of the first or main crop."

But I find, says Mr. Henderson, that the ordinary manner in which the Chinese cultivate it is still more simple than the above.

The earth is formed into ridges, when small tubers, or portions of large ones, are planted on the top, at about three feet apart; after the plants have attained a little strength, the shoots are spread over the sides of the ridges and pegged down at the leaf end, six or eight inches from each other (care being taken to cover the joints or parts pegged down with a portion of earth,) when they soon strike root and throw out tubers; by this means, immense quantities of roots, of the size of early-framed kidney potato, are raised on a comparatively small piece of ground.

But, to obtain them of a large size, small tubers, or portions, are planted on ridges, at ten inches to one foot apart, and the plants are allowed to grow freely till late in the autumn; the tubers by this means attain on a average one pound and upwards in weight. The produce, when the ground is required for other purposes, is taken up and stored away for the winter and spring; and it seems a peculiarity in this root, that if exposed to the frost, it is not injured by it.

We append an illustration of this truly interesting vegetable, which bids fair to earn for itself a high reputation, and, as a necessary consequence, its general employment as an article of food.

MAYNARD'S CORN AND COB CRUSHER.—We refer our readers to the corn and cob crusher advertised by Sinclair & Co. We have had the opportunity of witnessing its operation, and examined its interior works, and consider it decidedly one of the best machines for the purpose yet introduced. We will give a more particular description of it in our next.

Grovemont, an Elkridge Farm.

FOR SALE this beautiful and highly improved FARM of TWO HUNDRED and SEVENTY-SIX ACRES—76 thickly *wooded*. The *Mansion* is spacious and modern, beautifully located in the centre of the Farm, commanding a view of the city and bay.—The *lands* are highly improved, and every acre productive; the present fields of nearly 100 acres of Wheat will show its quality. A *Young Orchard* of choice Apples, Peaches and Pears have commenced bearing; *Springs* of the finest water abound, and every field well watered. As there are many fine sites commanding views of the city and bay, and superabundance of *Wood*, this farm might be advantageously divided. The neighborhood is noted for its healthfulness and distinguished for its large and refined society; Churches of various denominations and Seminaries male and female, among these the celebrated Patapsco Institute and St. Timothy's Hall. The depot of the Baltimore and Ohio Railroad is 1¼ miles; the Frederick and Washington Turnpikes pass near, and bring the city 10¼ and 9 miles—the latter is the best and shortest route, and it is said to be in contemplation to shorten the distance some miles. This Farm has been pushed forward at a heavy cost, to make it early profitable—it is now so, and the purchaser has only to pitch his crop to reap the benefits. There is always a ready market on the place, or at Ellicott's Mills. The Lands have been steadily advancing, but still greatly below the value of lands of the same distance from other cities. It is offered for sale because of the purchase of Antrim, a much larger farm.—Possession given immediately and *Stock* and *Farming Utensils* will be offered for sale. Terms made easy.—Apply to JAMES PIPER, on the premises, near Ilchester Post Office, Howard county.

apr1-1t

Super-Phosphate of Lime.

THE subscriber would call the attention of the Agricultural community to the superior article of

"SUPER-PHOSPHATE OF LIME,"

Manufactured by him, and which has been in use for several years past, producing in every instance, so far as we have been able to learn, the most satisfactory results.

It was our intention to have published in this No. of the Farmer an analysis of each of our manures, with the monied value of the constituents used in their manufacture, but want of space prevents us, and we shall be pleased to show a copy of the analysis on application at our office. The following is an extract from Dr. Bickell's (Ass't State Chemist,) analysis of our "Super-Phosphate of Lime:"

Phosphoric Acid,	20.67
Sulphuric Acid,	24.60
Lime,	30 57
Oxide of Ammonia, equal to Ammonia, 3.36	5.14
Peroxide of Iron,	1.38
Water, Charcoal, Sand, &c.	17.64
	100.00

VALUATION.

100 lbs. is worth for its Ammonia, at 9.5 cents per pound, according to the market price of Guano,	.32
For its Phosphoric Acid, at 5.1 cts. per pound, according to the market price of Bones,	1.05
For its Sulphuric Acid, at 5.3 cts. per pound, according to the market price of 54.26 Sulphuric Acid,	1.30
Total for 100 lbs.	$2.67
Total for 2000 lbs.	$53.49

The valuation above represents the *cost* of materials employed in the manufacture of the Super-Phosphate, without any allowance for labour, bags, &c., which would necessarily increase its cost. From our connecting the manufacture of "Super-Phosphate" with our Factory for the manufacture of Sulphuric Acid, and other chemicals, we are enabled to furnish this valuable manure, containing the above materials, for a much *less price* than their value to the Farmer. This will account for the difference in the price at which we sell, and the valuation mentioned above, and for the security of purchasers, we will *guarantee all* of our manufacture of Super-Phosphate of Lime to be equal to the above analysis.

It will be seen that the Super-Phosphate contains a much larger per centage of Phosphoric Acid than Peruvian Guano, (or any other manure,) and all of which will remain in the ground until abstracted by vegetation, thereby not only benefitting the crop to which it is applied, but will leave the ground in an improved condition for after crops.

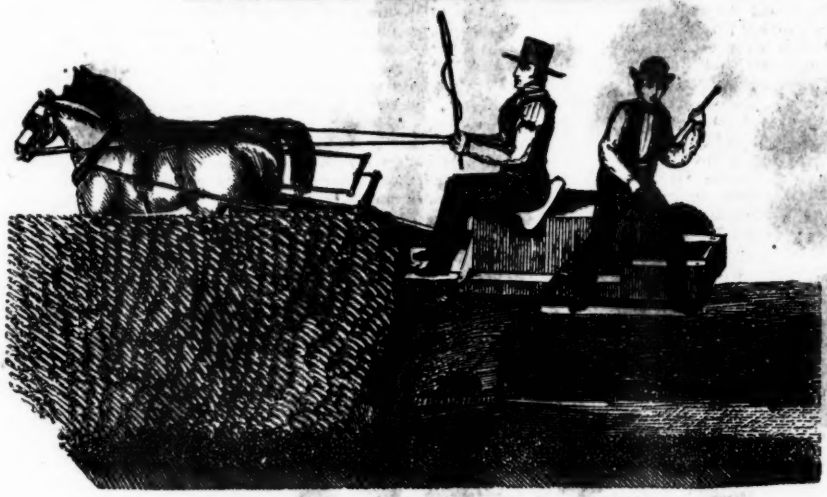
We will furnish Super Phosphate of Lime, put up in bags containing 150 and 200 lbs., at the following prices:

For less quantities than 10 tons, $42½ pr ton.
10 tons and upwards, 40 "

We are now prepared to execute orders with promptness, and any addressed to the undersigned or any of his agents, will meet with due attention.

P. S. CHAPPELL,
apl OFFICE—134 Lombard street, Baltimore.

HUSSEY'S
REAPING AND MOWING
MACHINES.



OBED HUSSEY

Would respectfully call the attention of Farmers to the rapid advance of the season. "The time of the singing of birds has come." The green blades are escaping from icy chains of Winter, admonishing us of approach of harvest. Farmers! do not forget your REAPING MACHINES! Those who are convenient to Baltimore, and intend to send their old machines here for repairs, should do so immediately. Those who intend to get new Machines should remember that OBED HUSSEY IS THE ORIGINAL INVENTOR OF THE FIRST SUCCESSFUL REAPING AND MOWING MACHINE, and has had twenty-one years experience in manufacturing them. They may also be informed, that all other Reaping Machines now offered to the public, are but SPURIOUS IMITATIONS OF OBED HUSSEY'S ORIGINAL REAPER; every one of them, without exception, embrace his original invention, and cannot work without it. These imitators have filled the public ear with laudations of pretended improvements, giving other names to their machines, as if a new implement had been invented.

All thinking Farmers will understand how much self interest has to do with this. Farmers should not be deceived by the inviting promise of a light machine, and light draught. A substantial and durable machine, and one that will descend to the next generation cannot be made light.

One farmer of Talbot county, Md., purchased a new machine of Obed Hussey since the last harvest, and can testify that the old one which his father purchased of me, has cut fourteen crops, and is good yet. It is now pretty well understood that there are no substantial and durable Reaping and Mowing Machines in the country, but such as are made at my manufactory in Baltimore, and none at so low a price.

☞Farmers! do not delay your orders. Small Farmers, who want small Machines, should order them in time to have them made. ADDRESS

OBED HUSSEY, Baltimore, Md.

April 1—tf

YOUNG HEROD.

THIS Celebrated Horse and sure foal getter, will stand this season, commencing 1st APRIL, on Mondays and Tuesdays, at *Walnut Lawn Farm*, 10 mile stone on Washington Pike—Wednesdays and Thursdays, at *John Rust's Tavern, Catonsville*,—Fridays and Saturdays at *John Hartsell's 3 mile house, on Reisterstown Pike*. ☞TERMS—$10 Cash, for the Season.

PEDIGREE—Young Herod is a rich dark bay, superior action and power, has paced a mile without training in 2 minutes 56 sec. and trotted in 3 minutes 16 sec.—Was bred by Jonathan Dorsey, of Carroll Co. Herod was got by Herod, owned by Edw H. Dorsey, of Hunting Ridge, his dam of the Tom and Canadian stock; Dorsey's Herod, by Wild Herod, dam of the Tom and Leopard stock of Wild Herod, by Imperial Herod, imported by Col. Hilton, of Washington Co., Md.—Wild Herod's dam by Liberty, out of an Americus mare. There have been many fine race horses from old Herod, and more fine saddle horses, than from any other imported horse on record. He received several premiums at our Cattle Shows. It is deemed unnecessary to say more of him, as he is well known, and will show for himself. R. H. EVANS. ap-1.

Chappell's Improved Fertilizer, or Agricultural Salts.

Applied as a top-dressing on Wheat or Rye, at the rate of one barrel to the acre, (as soon as the frost is out of the ground) will increase the yield of grain much more than the cost, besides securing a large additional yield of Clover.

Experience has also proved the Salts to be a valuable dressing for Clover and Meadow fields—try it.

Corn. Those who wish to use the Fertilizer on their corn crop, broadcast, should apply it soon after ploughing, thus *securing* its solution before planting; used in the hill, it has succeeded *better* than Guano, and pays well.

Potatoes and *Garden Vegetables.* Very many experiments have fully confirmed the use of our Salts as the cheapest manure that can be used. Potatoes are much increased in size and quality.

400 lbs. of our "Fertilizer" applied to an acre of "poor land," will be found equal to a heavy dressing with stable manure. Nearly all who have used it, prefer it to Guano, on account of its cheapness and permanency.

We do not consider it necessary to publish all our letters of recommendation, as they can be had in pamphlet by addressing us, or applying at our office. We are now prepared to furnish orders in any quantity, and any with which we may be favored, will meet with prompt attention.

Price, $20 per Ton.

P. S. CHAPPELL,

Office 134 LOMBARD STREET, Balto.

AGENTS.

Booker & Watkins, Richmond, Virginia.
Watkins, Son & Co., Petersburg, Va.
James McGuire, Fredericksburg, Va.
T. M. McCormick & Co., Alexandria, Va.
Samuel Oliver & Son, Newburn, N. Carolina.
Baker & Brown, Winchester, Va.
Samuel Hartley, Winchester, Va.

HOPEWELL COTTON WORKS, July 23, '54.

Mr. P. Stockton Chappell.

Dear Sir:—Your favor of the 7th inst., has been duly received. In reply to your enquiry with regard to our experiments with Chappell's Fertilizer the past season, we would say, that we applied it to two fields of corn, at the rate of a barrel to the acre, spread broadcast after the corn was up, and had reason to believe that our crop was considerably increased thereby. One of the fields, although it had been frequently limed, had never before yielded what we considered a good crop of corn—but the past season it gave us 95 bushels to the acre, nearly double any previous yield.

In the Fall of last season we applied the Fertilizer and Peruvian guano mixed together, 150 lbs. of each to the acre, on our wheat ground, which was an oats stubble. Another portion of the same field had an application of Peruvian Guano alone, and a third portion of it received a good coat of compost manure. The crop has recently been harvested, and we considered the wheat on the part of the field to which the Fertilizer and Guano combined was applied the best. The yield we expect to be no less than 30 bushels to the acre.

The result of this season's application we cannot so well speak of yet. We put a considerable quantity of the fertilizer on our corn ground this spring, in the same way we did the last. The corn looks exceeedingly well, and promises a large crop. We have one field to which the Fertilizer was applied, and another which was well coated wtth barn-yard manure. There is at present not much difference in their appearance.

We went the other day to see a field of one of our neighbors, who had from us a portion of the Fertilizer we ordered from you this Spring, and to which he applied it in the same way as we had done. A space in the field of some fifty yards or more square, was accidently missed in sowing the Fertilizer, and the corn on that particular portion is not more than half the size of that surrounding it.

It is our intention to order from you a considerable quantity for our wheat ground this Fall, to mix with guano as last year.

Respectfully, yours, &c.

S. J. DICKEY & BROS.

Statement of Experiments made by Dr. Sidney Weller, of Brinckleyville, Halifax Co. N. Carolina—From the Agricultural Report of the Commissioner of Patents, for the year 1853.

"I will give one more experiment with fertilizers, which, from its peculiarity, may be regarded with some interest. Last winter it was proposed that as many members of the North Carolina State Agricultural Society as might feel inclined, should deposite in one common fund, $5 each, to be awarded in three graduated prizes—first, second and third—(after reserving for the use of the Society 15 per cent) to those of the number who should produce the largest yield of corn on an acre of land, which, in an unimproved condition, would not yield more than three barrels, or fifteen bushels—to be selected and determined by disinterested judges. Each member was to have the privilege of resorting to his own mode of cultivation.

The acre of ground selected for my experiment, in an unmanured state, it was judged, would not have produced more than 2½ barrels, or 12½ bushels; but by the aid of guano, plaster and superphosphate of lime, and Chappell's Fertilizer, connected with a light dressing of manure from the barn-yard, and compost heaps made of swamp mud, cotton seed, and stable dung, I produced 14¾ bbls. or 73¾ bushels of corn, valued at $65.52, and this at a cost of about $20 for fertilizers and their application, to say nothing of the fodder derived from the stalks, blades and shucks, and the increased fertility of the land, from which I expect to make a good crop of clover and wheat without additional manure. Besides, in the opinion of my neighbors, who are considered competent judges, had not the season been unfavorable from wet and drought, my acre would have yielded eight or ten barrels more

I commenced the improvement of my ground in the winter, first by running a plough a foot deep, and then sprinkling in the furrow guano mixed with one-fourth by weight with plaster, at the rate of 150 pounds to the acre; and directly after, loosening the ground to the depth of 15 inches with a subsoil plough, finishing one furrow before another was

opened. Next a light dressing of barn-yard manure was spread over and harrowed into the field, which was followed, in one part by sprinkling of compost, and in another with a dressing of Chappell's Fertilizer, mixed with one-fourth part guano, which were also harrowed in.

Just before planting, about the 20th of April, '53, the ground was again subsoiled, and then worked off into drills 3½ feet apart, with a subsoil plough, into each of which a sprinkling of Chappell's Fertilizer was added. I then planted the drills with Ward corn, with the kernels nine inches from each other, which was afterwards thinned out to 18 inches apart. The field was kept as nearly level as practicable, by working it with coulters, cultivators and harrows, one after the other. It may further be remarked, that, as I never sucker my corn, not only two ears were grown to a stalk, but many of the suckers themselves produced good ears.

In reefrence to Chappell's Fertilizer, others who have tried it agree with me in thinking, that when used with one-fourth part guano, it goes as far as an equal quantity of guano unmixed, though at a much lower cost. ap.1

NEW BOOKS.

C. M. SAXTON & CO.

Agricultural Book Publishers, 152 Fulton St.

NEW YORK, HAVE IN PRESS,

1.—The Practical Land Drainer,

BEING a Treatise on Draining Land, in which the most approved systems of Drainage are explained, and their differences and comparative merits discussed—with full directions for the Cutting and Making of Drainage, with remarks upon the various Materials of which they may be composed.—With many Illustrations. By B. Munn, Landscape Gardener. Price 50 cents.

2.—*THE PRACTICAL FRUIT, FLOWER, AND* KITCHEN GARDENER'S CALENDAR,

By Patrick Neill. Edited by G. Emerson, M. D., Editor of "Johnson's Farmer's Encyclopedia." With Notes and Additions, by R. G. Pardee, author of "Manual of the Strawberry Culture." With Illustrations. Price $1.25.

3—DOWNING'S LANDSCAPE GARDENING,

C. M. SAXTON & CO. 152 Fulton Street, have in press a new and elegant edition of a Treatise on the Theory and Practice of *LANDSCAPE GARDENING*.—Adapted to North America, with a view to the improvement of Country residences, comprising Historical Notices, and General Principles of the Art. Directions for Laying Out Grounds, and Arranging Plantations—the Description and Cultivation of Hardy Trees, Decoration Accompaniments to the House and Ground, Formation of Pieces of Artificial Water, Flower Gardens, &c.—with remarks on Rural Architecture. By A. J. Downing.—Price $3.50.

☞The above will be sent, postage paid, to any part of the Union. ap-1t

JEFFERSON MACHINE SHOP,

Iron and Brass Foundry.

Patent Premium Thresher, CLEANER & BAGGER.

THE subscribers would return their sincere thanks to the Farmers and the public generally, for their liberal encouragement during the past season, and hope by strict attention to business to insure a continuance in the future. From the extraordinary demand for our justly celebrated

PATENT PREMIUM THRESHER, CLEANER AND BAGGER,

we have prepared for the coming season the largest assortment of Threshers and Powers in the State, including our improved Tumbling Shaft Gear Horse Power and Cleaner—the only Separator the farmer can with safety place in the hands of his servants. It has but one small strap about the whole machine, and we warrant it to thresh more grain and break and waste less than any other Separator now in use with the same number of hands and horses; we also make them with straps, equalled by no strap machine in the country. Also, the very best simple Thresher and Shaker with Tumbling Shaft or Strap.

Our stock consists of the following sizes, and their prices at the shop, viz:

Largest size Thresher and Cleaner, for 8 and 10 Horses, 36 inch Cylinder,	$200
Power for same,	130
With strap, and with tumbling shaft and gears on Threshers, extra,	25
Second size 30 do, Thresher, for 6 and 8 Horses,	175
Power for same,	100
With strap and with tumbling shaft, extra	20
Third size, for 4 and 6 horses, Thresher	125
Power with strap	90
With tumbling shaft, extra	20

We also make simple Threshers and Shakers as follows:

For 8 and 10 horses	$90
For 6 and 8 do	75
And for 4 and 6 do	55

These machines are all completed with wrenches, &c., and ready for operation when sent away from the shop, and we will further say to the farmer that we have calculated our powers for this season so that the horses if desired will walk slower than to any other machine now in use. We also make a very superior two horse WAGON to carry the Cleaner upon, which we will furnish to purchasers at a low price. We are also making a very superior *WHEAT DRILL*, with Rohr & Henson's Compost Attachment, which we warrant not equalled by any other seeder now in use for the simplicity and durability of its construction. This machine received the highest premium at the Virginia State Fair in 1854, and is the only genuine *Sower* that can be relied upon. This machine should be in the possession of every farmer who uses Guano or any similar fertilizer, as it will save one half the Guano sown the common way, and better insure a crop. This has been so thoroughly tested by many of our most practical farmers that it only required a trial of the most skeptical to convince them of its utility, and we respectfully invite all who want either of the above machines to call and see our stock.

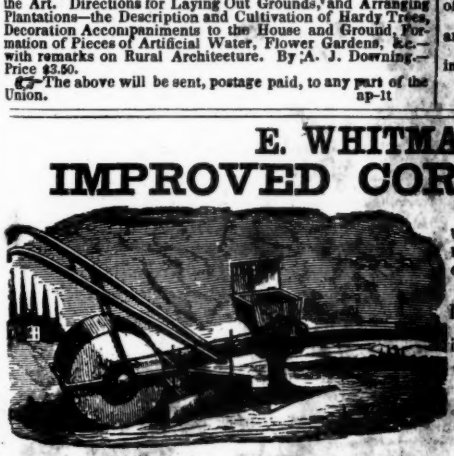
☞All work sent out warranted to be made in the strongest and most durable manner.

☞All orders addressed to the undersigned will receive immediate attention.

ZIMMERMAN & CO.

Charlestown, Va., March 24, 1855. apr1

E. WHITMAN & CO.'S
IMPROVED CORN PLANTERS.



These are the Corn Planters which gave such universal satisfaction last season, will plant any number of grains, at the distance of 18, 24, 30, or 36 inches.

This is the most perfect machine for the purpose now in use.

Manufactured and sold in this city exclusively by

E. WHITMAN & CO.,

NEW STORE—63 EXCHANGE PLACE,

OLD STAND—55 LIGHT STREET,

apr1 Baltimore, Md.

SAMUEL SANDS. NICHOLAS B. WORTHINGTON.

Farmers' and Planters' Agency.

The undersigned will pay attention to the supply of *PERUVIAN GUANO*, at the lowest rates of the Messrs. Barreda & Bro., the Agents of the Peruvian government from whom we will always obtain our supplies direct—charging no commission for the purchase.

MEXICAN and *AFRICAN GUANO*, $20 to $33 per ton according to quality.

PLASTER PARIS, BONE DUST, SUPER PHOSPHATE, and other manures.

AGRICULTURAL IMPLEMENTS and *MACHINERY* of every description.

CLOVER, TIMOTHY & other SEEDS, TREES, PLANTS, &c.

Also, *LIVE STOCK*, of every description.

☞ All orders will be thankfully received and promptly attended to. SAMUEL SANDS,
NICH. B. WORTHINGTON.

Publishers *American Farmers*, 128 Baltimore St., Balt., Md.

☞ Subscriptions received for the "*FARMER*" as above. feb1-tf

CRANBERRY PLANTS, of the Bell or Egg-shaped variety. They are the greatest bearers—often produce from two to three hundred bushels per acre, and will keep well, if properly gathered, and can be raised on poor, swampy land, where nothing else will grow. ☞ *Circulars*, relating to culture, price, &c., will be forwarded gratis to applicants.

Also, *LAWTON'S NEW ROCHELLE BLACKBERRY*, for sale by F. TROWBRIDGE,
ap1-3t* Dealer in Trees, Plants, Vines, Roses, &c.

FARMERS ATTENTION!

"Chappell's Super-Phosphate of Lime,"

CONTAINING, 40 per cent. Bi-Phosphate of Lime.
13 do. Sulphate Ammonia.
24 do. Sulphuric Acid.

☞ Put up in bags, containing 150 and 200 lbs. Price, $45.50 per ton.

☞ Analysis by Dr. Bickell, can be seen at our office.
Office, 134 Lombard Street.
ap-1 Chemical Factory, corner Cross & Covington-sts. Balt.

THE PROGRESSIVE FARMER,

The Cheapest Agricultural Paper in the World!

EIGHT pages, Royal Quarto—handsomely embellished, and printed on the finest paper. *Subscription*, 25 cents per annum.

A. M. SPANGLER, Editor,
ap1-3t Office, N. E. corner 7th & Market-sts. Philad.

Manny's Patent Combined Adjustable Mower and Reaper,

With all the latest Improvements.

WILL cut close, or at any desired height from the ground.—Warranted to cut grass or grain equal to the best scythe or cradle. Price $175, cash at shop.

Customers would do well to send in their orders early. Address WM. JOHNSON & CO. Builders,
ap1-1t* Newark, Delaware.

MEXICAN GUANO.

125 TONS of A. Mexican Guano, containing 51.80 per cent. of Bone Phosphate of Lime, as per inspection. This cargo is unusually free from coral and other refuse substances, having been carefully dried and screened. For sale, in lots to suit purchasers, at lowest market prices by SAMUEL S. CARROLL,
ap 1-1t* *No. 58 Buchanan's Wharf, Baltimore.*

FOR SALE—"IRONSIDES," a grey Colt two years old in April, was got by "Conductor," who was by "Young Emperor"—a highly bred Messenger horse—the dam of Conductor was of the celebrated Morgan breed. Both of these Stallions are remarkable for their docile dispositions, and fine qualities as roadsters. They were bred and owned by the late Col. J. Barstow, of Bridgeport, Conn. "*Alice*," the dam of Ironsides, was got by an "Eclipse" Horse, and her dam "Dolly," was of the Messenger strain. Each of these mares were fine rackers and trotters, of high spirit, and great endurance.

"Ironsides" is of large size and fine promise. From the above it will be seen that he possesses the most valuable blood for road stock.

Also, a yearling Colt out of Alice, by Ticonderoga Black Hawk, of jet black colour, good size, and closely resembling his sire in points. Being overstocked, they will be sold low, if early application is made. For further information, apply to MARTIN GOLDSBOROUGH, General Agent, Baltimore, or to the subscriber, WM. HENRY DE COURCY, Wye Mills,
Chaston, March 20th, 1855. Talbot Co., Md. ap 2t.

Maryland State Agricultural Society.

THE Quarterly Meeting of the Executive Committee will be held at the Society's Rooms in Baltimore, on the *FIRST WEDNESDAY IN MAY*, at 10 o'clock, A. M. at which time the Premium List will be arranged, and other matters of deep interest to the Society considered. It is earnestly requested that every member of the committee be present at this meeting.

By order of JAMES T. EARLE, *Pres't.*
ap-till-2t SAM'L SANDS, *Sec'y.*

ROBERT TURNER,

Flour, Grain, Feed, Seed and Lime Store,

Dealer also in GUANO and BONE DUST.

No. 47 S. Frederick street, Baltimore,

Has on hand, and intends keeping, at new Warehouse, No. 47 S. Frederick Street, between Lombard and Pratt streets, a choice *Timothy and Orchard Grass Seeds*—all kinds of *Grain* and *Mill Feed*, together with *Bale Hay*, which he will sell on pleasing terms. FAMILY FLOUR WARRANTED.

N. B.—Orders received for Lime, Bricks, &c., promptly attended to. ☞ DeBuno's Super-Phosphate of Lime, constantly on hand, at lowest rates. ap1-3t

CHOICE STOCK FOR SALE.

CHESHIRE, Suffolk, Chinese, Woburn, and Duchess brood SWINE, in pairs or otherwise, for sale at reasonable rates to close out my selected stock. Also Brahma, Hoang Ho's, English red Caps, Creoles and Black Spanish Fowls; English, French, Mexican, Sumatra and Java Game Fowls, all pure and in fine health. Bremen, Guinea and Manilla Swan Geese. Aylesbury and Normandy Ducks. The above stock will be sold at the lowest prices, to close out all the stock belonging to my farm. Apply to Dr. G. W. LAWRENCE,
ap1-2t Catonsville, Baltimore County, Md.

JOHN D. HAMMOND,

SADDLE, HARNESS, AND TRUNK MANUFACTURER, *Wholesale and Retail, No. 235 Baltimore Street*, (opposite the Eutaw House,) *Baltimore*, Manufactures and keeps constantly on hand, every description of Harness, Trunks, Valices, Carpet Bags, Collars, and every other article in his line. All orders executed with neatness and despatch. ap1-1y

READY ON THE 17th OF MARCH.

"HISTORY OF THE HEN FEVER,"

BY GEORGE P. BURNHAM. TWENTY ILLUSTRATIONS.

AN original humorous account of the POULTRY MANIA! by one who has been there! ☞ Price $1.25 in cloth. Every body who loves to laugh, buys it. Address JAMES FRENCH & CO., Publishers,
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Ground Plaster and Bone Dust.

THE subscribers are now prepared to furnish *GROUND PLASTER, BONE DUST and VITRIOLIZED BONE*, at the Potomac Mills, (formerly known as the Stone Warehouse) to all who may desire to purchase, at the lowest market price.

The Mill being situated immediately on the Potomac River and the Chesapeake and Ohio Canal, affords very great facilities for the shipment of Plaster and other articles, to any point on the canal or river.

GUANO and other *FERTILIZERS* not sold and manufactured by the subscribers, will be purchased at the lowest market price, at a reasonable commission.

N. B.—$12 per ton will be paid for any quantity of Bones delivered at the mill.

MORGAN & RHINEHART,
Potomac Mills, foot of G. street, Washington City, D. C.
ap1-1yr

Chester Hogs For Sale.

A SOW about 18 months old, in pig by a Premium Boar—and another Sow, 20 months old, will pig in May—and one a year old, also in pig. Also 2 BOARS, one 2½ years old, took the premium last Fall; and the other 9 months old. Some of the Premium Bee Hives still left. Apply to C. WARNS, Elk-Ridge Landing, Howard Co., Md. ap1-1t*

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